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Manila Water Privatization:
Universal Service Coverage After the Crisis?

By Jude Esguerra

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UNRISD, Palais des Nations
1211 Geneva 10, Switzerland

Tel: (41 22) 9173020
Fax: (41 22) 9170650
E-mail: info@unrisd.org
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Manila Water Privatization: Universal Service Coverage After the Crisis?

By Jude Esguerra

Summary:

The first five years of the operations of the Metro Manila Water Concessions brought disappointing results. Investments and promised efficiencies did not materialize. The original bid tariffs were revealed to be unrealistic and there were indications of this even at the onset. The Asian financial crisis contributed to the difficulty of achieving performance targets in both concessions, but that only constitutes a small part of the explanation for the failures.

The rate re-basing exercise in 2002 marks a crucial turning point. The East Zone Concession was given a new lease on life through significantly raised tariffs; as a result it has become bankable and confident of achieving its scaled down targets. The West Zone Concession company remains unbankable and awaits corporate rehabilitation.

The bankability of the concessions is the most important factor in achieving the promised universal service coverage in water supply. The paper shows that bankability was made difficult by the inability of the bidders to assess *ex ante* the true state and potential productivity of concessionaire assets. It was also made difficult by the knowledge of the bidders that renegotiation is likely in case profits are negative and by the existence of many vague provisions in the contract that seemed to provide windows for political bargaining over contract terms and rules. It is not obvious that there was a way to avoid these information problems, especially in the much cases such as the older West Zone Concession with its many unplanned settlements.

The East Zone Concessionaire, however, has also introduced innovative engineering and social methodologies for extending services in urban poor communities of Metro Manila. These approaches move towards mitigating the plethora of commercial risks and costs encountered in bringing services to poor communities of informal settlers. The guaranteed returns on investments and the subdued incentives for making a profit that have been designed into the original concession contracts bid well for the willingness of the East Zone Company to venture into poor communities. The bankability of the East Concession business plan may that was made possible by the early resetting of tariffs and performance targets may yet nudge the Concessionaire into service expansion practices that were unthinkable during the first five years of financial difficulty. Many limitations remain – key among these are i) the high costs of connections, especially in areas that are not yet in the current business plan of the concessionaire ii) the need to properly calibrate and regulate the tariffs imposed by the East Concession through its bulk sales to mini-distribution systems and iii) the need to address the uncertainty in the cost recovery among pioneer, third-party providers in areas that the concessions will not be able to serve in the medium-term period.

Manila Water Concessions: Universal Service Coverage After the Crisis?

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Background

In January 1997 then Philippine President Fidel Ramos successfully induced four private water companies to bid for the right to operate and invest in two 25-year water concessions covering two-halves of Metro Manila and towns in the nearby provinces of Rizal and Cavite. To date this was the biggest and perhaps the most ambitious effort in the world to induce private companies to operate and invest in a public water utility. Metro Manila alone had 11 million inhabitants at the time of the bid.

From a system where piped connections were accessible to only two-thirds of the population, the concession contracts specified the achievement of near universal water service coverage during the first ten years even as the population was growing rapidly and was expected to double within 30 years. Improvements in water pressure, water quality and in the number of hours of service per day were also specified in the contracts. Sewage and sanitation services over the life of the contract were also expected. New raw water sources were to be developed and financed through the water tariffs. Total investments over the 25-year life of the contract were expected to reach US\$7 billion. The concessionaire inherited the income stream of the MWSS, but they also inherited the historically accumulated indebtedness of the public utility.

The winner in the East Zone offered a basic rate that was one-fourth of MWSS tariffs. The winner in the West Zone bid a basic rate that was about one-half of the prevailing MWSS tariffs. The overall impression in policy circles was that the bids reflected the private sector's confidence in their ability to improve over the performance of MWSS¹.

The scope for efficiency gains in the Metro Manila Water Works and Sewerage System (MWSS) seemed apparent in the level of Non-Revenue Water (NRW), which in 1995 officially² stood at 55 percent. With 8,000 employees, the public utility was also believed to be overstaffed. The fact that one-third of the population still had no access to piped water also meant that there were significant economies of scale that were yet to be realized³.

¹ Tariffs were raised by 38 percent five months before the bids were made, to ensure that 'privatization' would not result in a sudden tariff increase.

² The concessionaires argue that the NRW was much higher, probably 11 percent higher. The accounting turns on assumptions about pressure management practices of the public utility.

³ Although it may also be true that certain diseconomies will also emerge because populations densities can turn out to be lower in the unserved areas. The costs of new water sources can be significantly higher than before, based on the assumption that the first sources that were tapped were the ones that were more productive and closer to the Metropolis.

The East Zone contract was won by a partnership of United Utilities, Bechtel⁴ and the Ayala Corporation. The West Zone concession was won by a partnership between Suez/Ondeo and Benpres Corporation. In each case, due to Constitutional limits on foreign ownership of utility companies, the majority owner of the project company is a Filipino corporation. Vivendi and Thames also made a bid for the concessions.

Regulatory Roles and Rules

A pool of consultants led by the International Finance Corporation provided the advice that permitted the Philippine government to craft the details of a contract attractive to private investors that, among other things, sought to achieve the following:

- a) identification of concessionaire service obligations
- b) identification of tasks assigned to the MWSS -- mainly as parties to the agreement and development of a major water supply source
- c) setting up of a regulatory office (MWSS Regulatory Office – MWSS-RO) via the contract that would monitor compliance with contract obligations and determine rate adjustments based on guidelines set in the contract.
- d) setting up of a dispute resolution mechanism
- e) identification of rights of creditors
- f) specification of grounds and procedures for contract amendment and termination.
- g) recommendation of a mechanism for public performance appraisal.

The concession arrangement was a decision to auction off the rights to operate and expand the water and sewerage network system to the bidder offering the lowest price of water -- for a given set of performance parameters that included expansion of service coverage and the maintenance of the assets of the utility. The latter would of course require large sunk investments from the concessionaires.

The tariff-setting rules that would reimburse the concessionaires provide incentives for increased efficiency. From the first rate rebasing onwards, tariffs are adjusted every fifth year so that the return on investment does not exceed the fair return initially stipulated in the contract and thereafter aligned with market returns during succeeding rate re-basing exercises. However, if the concessionaires are able to earn higher profits as a result of increased efficiency and effort, the contract allows them to reap these rewards. At the end of the five-year cycle, a readjustment of tariffs ensures that consumers also benefit from the concessionaire's efficiency gains. On the other hand, if a company does not achieve profitability targets or if profits are negative, it suffers the consequence but rate rebasing corrects this problem periodically. The basic base rate is automatically adjusted for inflation every year. The concessionaires may petition for adjustments in the basic rate to cover unanticipated costs arising from sharp devaluations, changes in laws which affect cash flow, *force majeure* – a total of eleven grounds for extraordinary price adjustments.

⁴ In 2004 Bechtel gave up its ownership shares East Zone company. Aside from the majority shareholder Ayala Corporation, the major shareholders are United Utilities and the International Finance Corporation.

If a particular ground for tariff increase is accepted by the Regulators, the concessionaire will be compensated over the remainder of the concession period through a tariff increase. Unanticipated costs arising from newly legislated health or environmental standards, for instance, are examples of specific grounds for tariff escalation through the extraordinary price adjustment mechanism. Unanticipated high rehabilitation costs, such as may arise from inaccurate asset records handed over by the government before the auction, are also ground for extraordinary price adjustments. But then again compensation for the unanticipated costs would happen over the life of the concession. The project company will have to raise money from creditors and its shareholders in the meantime. If a concessionaire disagrees with the tariff adjustment recommended by the Regulator to the MWSS Board, disagreements may be appealed through international arbitration.

In effect, the Concession Agreement provides three grounds for changes to the tariff rates: a) inflation – which allows for increases to the standard rates annually depending on the consumer price index b) Extraordinary Price Adjustments (EPA) – that are adjustments to standard rates which may be initiated once a year to capture the financial effects of certain unforeseen events to the concessionaires c) Rate re-basing – which is a resetting of the rates and a revision of the bid parameter once every five years, although the contract says that the first review is on the tenth year unless the Regulator chooses to implement it on the fifth year. The first amendment to the concession agreement introduced a fourth mode – contract amendment.

If legitimate grounds for price increases threaten to push the prices up, the concessionaires and the MWSS can choose to negotiate for a relaxation of some of the performance targets and investment plans.

The concessionaires have a large degree of autonomy as to what kinds of investments they will make in order to achieve the performance targets. There are explicit performance parameters and information requirements concerning the condition of the water utility's assets, these are a response to the problem of long-lived, non-transferable and not-easily-observable assets that the franchisee may not have sufficient interest to maintain properly throughout the contract's duration. In addition, asset reports are needed so the Regulator can identify assets that are frivolous and unrelated to the concessionaires' capacity to perform.

The MWSS-RO may also impose penalties and call on the concessionaires' performance bond depending on whether the MWSS-RO deems the concessionaires' performance to be unsatisfactory. Many details of the regulatory set-up have not yet been defined, even after the private companies have started operating. Performance criteria in the contract continue to be operationalized. The stakes involved in writing the fine print of the regulatory framework can be high.

Over all Performance 1997-2002

Overall neither concessionaire went close to fulfilling targets set out in their original bid documents. Both concessionaires claim population coverage based on a count of 9.2 persons per connection.

Table 1. Performance Water Supply Coverage 2001 (Percent)

MWCI			MWSI		
Target	Estimated	Claimed	Target	Estimated	Claimed
77.1	65	84	87.4	76	84

A joint technical working group comprised of the concessionaires and the MWSS Regulator derived the figure. This 9.2 multiplier per connection was, however, used for all municipalities within the service area irrespective of population density. This has most likely led to a significant overestimate, resulting in instances such as in the city of Makati where the population claimed to have been covered exceeds the actual population (Landingin 2002). Corrections on the claims in Table 1 above were initially made by the Regulator based on advice from an expert demographer. Better methodologies and databases are being developed to address this problem (ADB 2003).

Although progress is disappointing at best, the 50% increase in billed volume over four years is a significant achievement. The two- and three-fold increases projected by the concessionaires at the time of the bids were, also in retrospect, quite unrealistic (UpeCon, 2002). During the first five years, the East concessionaire was able to bring Billed Water Volume up to 70 percent of its target. The West concessionaire achieved a billed volume that was only half of what it anticipated for the period.

It should be noted that achievement of service coverage targets is the most important strategy for reaching the poor. This is evident from the fact that alternative service providers (in areas where the utilities pipes have not yet been installed) have a clientele that has a disproportionately high number of households with incomes below the poverty line (WPEP).

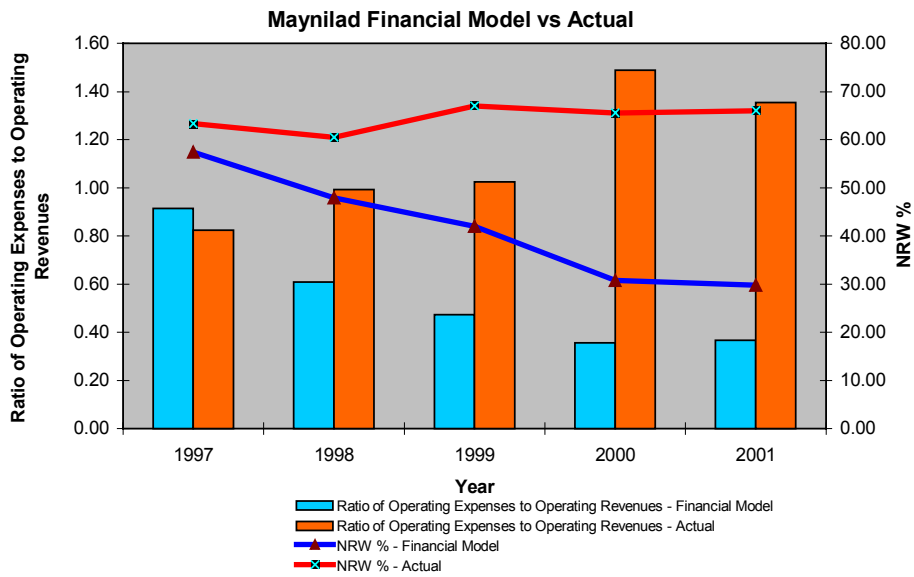
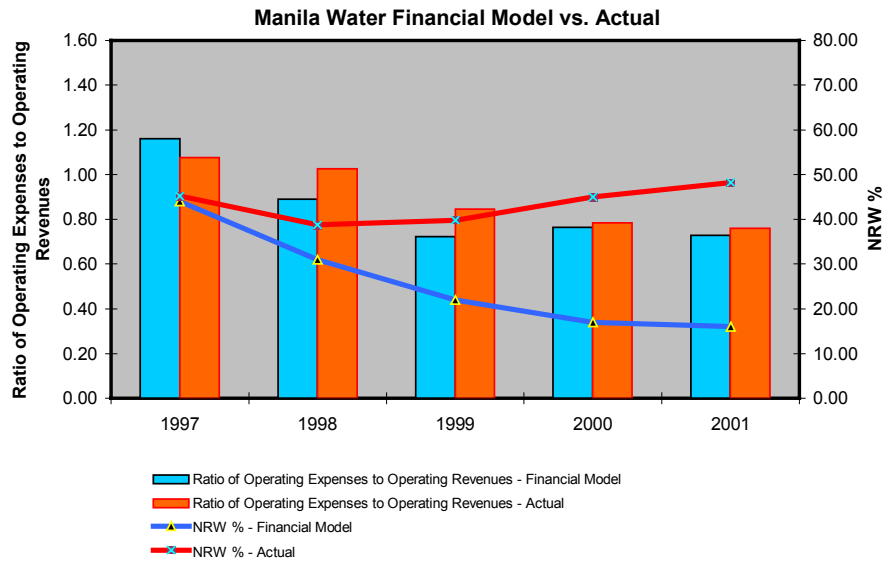
The very serious shortfalls in capital spending (three quarters in the case of MWSI and nearly three-fifths in MWCI), which cannot possibly be attributed either to cost saving or elimination of unnecessary projects, must also be seen as a further indication of poor performance by the concessionaires, as well as a major failure of one of the main objectives of the concessions. The consequence of this inability of the concessionaires to deliver the promised investments has gravely affected service delivery. Under the best scenario of post-2002 performance by both concessionaires, close to 700 thousand people will be affected by these past failures in terms of a deferment of service target coverage by several years (see annex a and annex b).

Contrast in Efficiency Between the Two Concessionaires

An assessment of operational efficiency was made by consultants of the Regulator in 2002 using data from submissions by the two concessionaires. By comparing actual

OPEX (operations expenditures) to bid OPEX, adjusted for actual price and volume⁵ changes, it was seen that the East Zone Concessionaire was able to meet the efficiency level comparable to the underlying efficiency assumption in the bid model. It was able to achieve this by exceeding its total OPEX forecast in the bid. However, because the most important driver of unit cost reduction is the Billed Water Volume (BWV), which turned out to be significantly lower than the bid forecast, unit production costs turned out to be significantly above bid forecasts for the years 1997 to 2002. On the other hand, the West Zone Concessionaire was unable to achieve similar efficiency gains in its operational expenditures. In fact, while Billed Water Volume for the West Zone Concessionaire turned out to be only about half of the bid forecast, actual operational expenditures even exceeded forecast expenditures. Billed water volumes for the East Zone reached about 75 percent of their levels forecasted in the original bid. The overall impact on revenues of missed billed water volume was P4 B in the East Zone and P15 billion in the West Zone.

⁵ Adjusting for volume changes was not straightforward because the regulatory office consultants had first to estimate fixed versus variable operational costs. The estimates showed that fixed operational expenditures costs were 75 percent versus variable operational expenditures costs of 25 percent. This means that a P100 reduction in sales was only expected to reduce operations costs by P25 pesos.



A similar picture can be gleaned from the ratio of operating expenditures to operating incomes of the two concessionaires. In figure 1 and figure 2 below, we compare the bid forecast ratios with the actual performance of the two companies as gleaned from their audited financial reports.⁶ Both companies failed significantly in reducing Non-revenue water, which is a core measure of the efficiency of any water utility. But it is obvious that the East Concessionaire (Manila Water) managed its cash flows well – expenses were kept below incomes and close to forecast annual ratios most of the time. On the other hand, the West Concessionaire (Maynilad) was unable to control its operating expenditures. It exceeded its total forecast operating expenditures for the first five years while selling half of the water that it intended to sell during that time. Consequently the ratio of West Zone expenditures and incomes veered significantly from the bid forecasts.

A more detailed comparison of the initial conditions and actual performance against bid of the East and the West Concessions can be seen below.

Table 2. Comparison between concessionaires and against original bid⁷:

	Manila Water (East)		Maynilad (West)	
	Bid	Actual	Bid	Actual
OPEX (2001) M Php	1296	1483	1579	3126
Staff Numbers	1460	1533	2170	2384
Unit Labor Costs (Php '000/ annum)		305		403
Power (Php/ m3 billed) – 2000	1.32 ⁸	0.37	0.53	0.26
Services (Php/ m3 billed) – 2000		0.23		0.26
Chemicals (Php/ m3 billed) – 2000	0.14	0.13	0.30	0.17
Materials & Supplies Php/ m3 billed)		0.13		0.17
Capex (1997-2001) m PhP *	3171	1687	11177	2587
Billed Volume Water – Mld				
1997	504		500	
2001	1041	728	1544	775
NRW (% of production)				
Physical 1997	24%		33.4%	
Commercial 1997	20%		24.0%	
Total 1997	44%	45%	57%	64%
Physical 2001	14%	- ⁹	27.6%	-
Commercial 2001	2%	-	3.2%	-
Total 2001	16%	48%	31%	66%

* Costs are indexed to 2003 levels

Main features of the MWCI historical cash flows submission (UpeCon, 2002):

- Target revenue streams (at bid) was missed by P4.04 billion (26%)
- Bid target billed water volume was missed by 25%

⁶ The 2001 ratios were derived from 2001 business plans.

⁷ Source of Data: MWSS Regulatory Office

⁸ The East Concession features a hilly terrain and water has to be pumped uphill in many places. In contrast Water in the West Zone is largely transported by gravity.

⁹ Neither concessionaire has implemented measurements of night flow of water. Such measurements provide a good picture of the division between physical and commercial losses constituting NRW.

- Actual expenditures were kept lower than target by P6.0 billion (25%). Note the 1:1 in percentage change between revenue shortfall and expenditure cuts.
- OPEX was kept lower than bid by P2.5 billion (20% reduction from bid)
- CAPEX target was missed by P5.2 billion (58% reduction from bid)
- Actual OCP is P1.9 billion lower than bid OCP

Basic picture is that MWCI dealt with revenue shortfalls by reducing expenditures to below target.

Main features of the MWSI historical cash flows submission:

- Billed water volume targets in the bid were missed by 46%
- Revenue targets were missed by P20 billion (42% of bid revenue)
- Actual expenditures of P55.2 billion were kept slightly lower than bid by P3.2 billion (5.4% of bid expenditures)
- Actual OPEX of P20.4 billion is higher than bid by P2 billion (11% over bid targets)
- Actual Main CAPEX of P4.6 billion missed the bid Main CAPEX target by P14.1 billion, representing a 75% drop relative to bid Main CAPEX

After adjusting bid figures for unanticipated changes in concession fees and FOREX losses, OCP submission of P30 billion still exceeds bid OCP by P15.7 billion (UpeCon, 2002).

Auctioning, Water Concession Information Problems and Bankability

The section shows that bankability was made difficult by the inability of the bidders and later of the creditors to assess *ex ante* the true state and potential productivity of concessionaire assets. Bankability was also made difficult by the knowledge of the bidders that renegotiation is likely in case profits are negative and by the existence of many vague provisions in the contract that seemed to provide windows later for political bargaining over contract terms and rules. It is not obvious that there was a way to avoid these information problems, especially in the much older West Zone Concession.

The difficulty of achieve financial closure has resulted in significant delays particularly in the coverage the West Zone. As shown in Annexes B and C, it is expected that a minimum of two years delay in service coverage will affect half a million people in the West Zone alone. In the East Zone, three hundred thousand people will experience a two-year postponement in their expected date for receiving service. A key feature of the PSP setup in Manila is thus revealed: when investments are delegated to the private sector, the pace of system expansion will be constrained heavily by the ability of the company to achieve bankability. Performance bonds that the public sector is supposed to be able to tap when the private companies under-perform are, in reality, beyond the reach of the

public sector. The MWSS has been trying to draw from the Performance Bond of the West Zone Concessionaire from 2002 to 2004 without succeeding.

Adventurous Bids and Their After-effects

Kartacheva and Quesada (2000) present a model of a government auctioning the concession of a public utility. Bidders anticipate that renegotiation will occur if demand is low and take this fact into account at the auction stage. For example, in the case of the concessions in Metro Manila this could pertain to the implementation of the first rate rebasing on the fifth year (which was originally an option that the government could have chosen to skip) instead of the tenth year of the contracts. In this model, the bidders know that if profits turn out to be negative the government will prefer to renegotiate rather than to risk the termination of the relationship because no competition could easily be called in to replace them at that point. As a consequence, the bids will be adventurous. They will be biased downward and will be insufficient to generate profits, given that a firm expects renegotiation if it makes losses. Furthermore, bidders that are confident of their bargaining power at renegotiation will bid more aggressively. These give incentives for firms to announce bids lower than the one that would have been announced if renegotiation were not an option. In turn, low bids increases the probability the renegotiation will in fact have to occur.

First-price auction bidding for the water concessions in Metro Manila may also have created a tendency for adventurous bids. The subsequent rise of tariffs to five times and seven times of the original bids for the West Zone and East Zone respectively may at least be partly explained by the possibility that the original bids were unrealistic to start with.

How might that be possible in theory? Klein (1998) provides a way of understanding how adventurous bids and subsequent efforts to restore financial viability might come about in water concessions:

“The bidders for the concessions needed to value the right to the concession, which depended not just on their own skill but on factors affecting all bidders, such as their assessment of the consumers’ willingness to pay and regulators’ future behavior. Cases where the bid value depends not only on characteristics of the bidder are called private value auctions. Cases where the value depends on factors that affect all bidders are called common value auctions. Different bidders have different information and different abilities to value a concession. So the most optimistic bidder rather than the most efficient one could win the auction, resulting in the failure of the winner, pressure for renegotiation, and excessive costs. This is called the winner’s curse”

In first-price auctions adventurous bids can be made in the hope that renegotiation or regulatory forbearance for non-performance, or the post-auction specification of open-ended rules for implementing regulation will allow the winner to survive, despite the unrealistic bid. If bidders have reason to suppose that they can renegotiate the contract, then they would have an incentive to make unrealistic bids. Klein says that “for bidding to be meaningful, failure to comply with the terms of the bid must impose costs on the

winning bidder. In a meaningful auction the winners curse is a serious treat to the winner.” It was not entirely clear in the case of the water concessions for Metro Manila that unrealistic bids would have negative consequences for the winning bidder. The concession contract after all commits the consumers to fully reimburse the concessionaire for investments that were efficiently made.

The Metro Manila Concession contracts contained ambiguity in several important respects. Rational bidders, would have been expected to take note of these ambiguities and to make assessments about the scope for using these as an antidote to the winners’ curse that would hound an adventurous winning bidder. Some of the most important ambiguities at the time of the bidding lay in the following: a) unsettled definition of performance targets b) lack of an operational definition for what investments are prudent, efficient and chargeable to consumers c) the lack of regulatory capacity to assess extraordinary price adjustment petitions, which essentially asks the Regulator to discover the cost of potentially large supplemental public works projects without the benefit of an auction mechanism d) the likelihood that the Regulator will advance the period of rate re-basing and be competent in implementing this process.

When the bids were being evaluated there were questions about how realistic the bid of Manila Water¹⁰ see box 1 below

Box 1: Was P2..32 base bid price sustainable of Manila Water Sustainable?

The International Finance Corporation (IFC) deemed the MWCI bid feasible under the following assumptions:

- Its consumer demand projections were 45 percent higher than an earlier study by a French consulting firm hired by the Philippine government -- SOGREAH .
- In five years non-revenue water would be reduced to half of what it was upon privatization.
- MWCI would be able to secure yen-denominated project finance at a very low real rate of 2.79 percent.
- It had a high gearing ratio of 87 percent.
- Its projected internal rate of return was set at 3.6 percent, whereas other bidders had 9 to 11 percent. Capital spending in the first five years is low -- 25 percent less than the amount earmarked by other bidders.
- IFC concluded that the MWCI bid is attainable but in addition to the above items cash flow will be negative in the first ten years -- down to \$496 million at the lowest. The IFC expressed concern over how MWCI would gain access to debt funding under these terms.

One wonders why the IFC had not declared the MWCI bid infeasible. But if it did, one wonders how the government could have survived the flak it would have received if it did not award the concession to the lowest bidder.

Based on Solon and Pamintuan (2000)

¹⁰ The staff at the financial regulation division of the MWSS regulatory office has also recently pointed out that the debt assumed as part of the service obligations in the MWCI financial models was P3.9 billion pesos shy of what the bidders were instructed to assume.

The contract form that allowed back-ended cost recovery, the bid methodology and the opaqueness of public water company assets and operations to creditors (to be discussed subsequently) may have imposed impossible demands on the feeble abilities of imperfect capital markets to assess risk and profitability. Considering that competition for the concession cannot be done repeatedly, the problems at the stage of bidding for the Manila concessions by themselves now appear to have been a substantial source of weakness.

Overly optimistic financial projections at the stage of bidding for the concession may have been inadvertently¹¹ encouraged by the contract rules on cost recovery at the first rate re-basing period and by the first-price auction mode of bidding. Unless a borrower offers collateral, as the East concessionaire did at the early stage, it would be difficult for creditors to assume that the predicted targets and efficiencies and cash flows will be achieved.

The perverse mechanism that created the opaqueness works as follows: If a concessionaire bid an unrealistic price per cubic meter of water and thus i) needed to spend several times more than the revenue implied by an adventurous bid or ii) would have a negative cash position at first rate re-basing despite the achievement of sales targets and efficiencies – the contract was generous in the provisions at rate re-basing that would allow the winning bidder to wiggle out of such situations. The costs that the Regulator deems as having been prudently incurred can be recovered at the first rate re-basing exercise. The below-target efficiency level during the first rate re-basing, rather than the bid efficiency levels, becomes the benchmark for assessing future performance. The winning bidder, therefore, will neither be the one that is most truthful nor the one that is able to offer the highest level of efficiency. Rather it is the one that is i) willing to sustain losses during the first five years in exchange for guaranteed profits thereafter ii) is capable of mobilizing cash needed to fill in the financial gap that may emerge before the first rate re-basing iii) is confident of being able to influence the vaguely defined rules on the full recovery of investments and returns for assets and operations expenditures that were “prudent and efficient.”¹²

Knowing that the bidders had these corrective mechanisms available, creditors cannot take the financial models that underpinned the bids at face value. Expectedly, a deviation between performance and forecasts can occur, the creditors’ problem is then also one of determining the extent to which the bids may have been unrealistic at the very start.

One is led to ask if this adverse selection effect in the auction and regulation of water concessions is a systematic flaw of the conventional model of concessions in the water sector. Of course contract negotiation also happens in other concessions. A World Bank database of the large-scale infrastructure privatization programs in Latin America indicates that concessions—contracts that are typically designed to last 15–30 years—are renegotiated on average after only 2.1 years (Laffont, 2001). In other words the possible existence of a systematic tendency towards contract renegotiation or perhaps even

¹¹ A requirement that a positive cash position should be achieved at the end of the first rate re-basing would have been useful in revealing the true estimates. A bidding rule that chose the lowest bidder but awarded the bid of the second lowest bidder (Vickrey’s second-price auction) has been suggested as an antidote to aggressive bidding in Solon and Pamintuan, 2000).

¹² Indications of regulatory malleability to concessionaire pressure may be found in Esguerra (2001, 2002)

towards adverse selection¹³ may not be unique to concessions in the water sector. But the flaw appears to be more than just a small blemish and far from being benign. Once the risks and information problems unique to utilities such as those found in major developing country metropolises are also considered (below) even the use of second-price auction, for instance, may not suffice. The emergence of contingencies not that are not listed in the contract also always creates an opportunity for political bargaining whose outcomes cannot be put to the test of the market.

The delay in the West concessionaire's request for relief after the devaluation of the local currency appears to show that even the company's own managers were unsure of the extent to which the company's bid financial projections can be used as a guide. It is, however, also possible that a company operating with unknown assets and starting off with unreliable public record will never really know the possible efficiencies until it undertakes that task of taking over the operations. Even if the bid methodology and the contract form are revised, there will always remain a great deal of uncertainty about the efficiencies that can potentially be achieved. The consequences of this for concessionaire bankability especially through the project finance mode are discussed in the next section.

Information Problems and Financing of the Concessions

According to Manila Water President Antonio Aquino "the main difference between the East and the West Zone concessionaire is that the East Zone was able to clinch deals with their creditors while the West Zone concessionaire failed to do so." This statement begs the question of the West Zone concessionaire's failure to clinch deals with its creditors. But it highlights the critical importance for water concessions of achieving creditworthiness in order to have a crack in the first place at implementing concession business plans.

It should be noted that there is also a major difference in the financing mode adopted by Maynilad in contrast to Manila Water. This may mode of access to capital markets may also account for the difficulty encountered by Maynilad in securing its term loan of \$350 to finance its investment plans in the first five years. Maynilad used a limited recourse financing scheme for its \$350 million term loan that uses only the revenue generated by the project itself to repay creditors. Manila Water, on the other hand, put more assets of the corporate sponsors at stake.

The nature of the risks in the sector (the small size of projects, the lack of creditworthiness of local governments, uncertainty over asset valuation, the fact that revenues are in domestic currency and local capital markets are undeveloped) makes raising long-term project finance at reasonable rates especially difficult. That project

¹³ In the case of other utilities, the tendency towards contract negotiation need not necessarily be an indication that adverse selection is also present. Some contingencies that may arise during the execution of the contract simply cannot be foreseen when the contract is signed. Or if they are foreseeable, it can simply be too expensive to write down responses to numerous and complex contingencies.

finance is inherently more technically demanding than corporate finance does not mean that it is always less desirable. When applied in the right settings it has the advantage of allowing the project sponsors to mobilize resources for huge investment projects without having to put too much capital at risk. However, corporate or balance sheet financing may be particularly attractive for overcoming some of the obstacles to financing water and wastewater facilities on a project basis. Reducing the reliance on limited-recourse debt, especially in a project's early high-risk development years, allows money to flow even if creditors themselves may not have enough information on which to judge the viability of costs and revenue flows underpinning the tariffs of a concession.

Unresolved information problems (of the moral hazard and adverse selection type) are at the core of bankability problems. The inability of the stakeholders to address major information asymmetry problems made it extremely difficult for the West Zone concession to achieve financial closure with its creditors through project finance. This, and not the often mentioned unanticipated costs arising from the currency devaluation of 1998, better explains why it was difficult for the creditors to finance the West Zone's major investments during the first half-decade of the concession. The contract has been revised and the company was allowed full and rapid reimbursement of unexpected foreign exchange related costs. Over and above the tariff mechanisms for the foreign exchange costs, significant rate adjustments have also been granted both concessionaires.

This discussion applies perhaps not only to the concessions in Metro Manila but, more broadly, to large-scale concessions in the water sector. The discussion, however, will have the most direct relevance to concessions where i) existing infrastructure on which revenues depend may be obsolete or in need of rehabilitation but little is known about the condition of the assets ii) the inefficiency of record-keeping was part of the fog behind which rent-seeking took place in the past iii) the base of new customers is found in heterogeneous settings where standardized service delivery modes may not work. A discussion of these initial conditions constitutes the first part of this section.

The same initial conditions also turned up in the case of the East Zone concession. The narrative on initial conditions and contrasting company strategies in the sections below also explain why the negative outcomes turned out to be more severe in the case of the West Zone concessionaire. In the case of the Metro Manila concessions and, more pointedly, in the case of the West Zone concessionaire the risks arising from the water sector information problems, on hindsight, were made worse by the inadequacy of instruments that were used in terms of the cost reimbursement rules in the contract and during auction as discussed above, and during the fund raising processes.¹⁴ The issue of fund raising instrument used will constitute the latter part of this section.

The literature typically assumes that the service provider knows its own production function very well, which is not always the case. The bidders for a concession are bidding for assets that are literally underground. the water and sanitation sector is characterized by a high degree of uncertainty about the condition of assets and thus the

¹⁴ The above analytical approach brings out more lessons than the IFC apparently was able to derive from its involvement in the privatization process. See for instance --

investment requirements. Private investors have only limited information about the state of the physical infrastructure (the pipes) and the customer base (the extent of illegal connections, for example). The condition and value of water and sanitation infrastructure is generally more difficult to determine than assets of other utility sectors because many of these assets are underground. As a result, underinvestment and improper maintenance can go unnoticed for years. Consequently private companies taking over water and wastewater systems may have difficulty estimating the costs of rehabilitation, tariff setting and adjustment can be subject to considerable uncertainty (Haarmeyer and Mody, 1997).

One has to rely on records that are not only incomplete but may also have been made methodically incomplete – by agents seeking to reduce chances of detection of rent-seeking in past procurement activities, in tariff collection as well as rent-seeking arising from staff forbearance in the case of outright water theft.

There was no process of reviewing the condition of the assets before the concession agreement was signed. Maynilad claims in its pleading before an international arbitration panel in 2003 that the pipes were fifty percent longer than was gleaned from the records.

The bidders were also given access to a data room even before the information memorandum was given to them. This was to enable them to do their own due diligence to satisfy themselves as to what they were bidding for. The bidders were given access to MWSS documents, including those that have been used for internal monitoring purposes and those produced by external consultants. These included documents about the estimated level of non-revenue water and reports on the condition of the system. All bidders were given access to documents on the strict understanding that they would do their own due diligence and MWSS would not be liable in any way for the accuracy of the documents. In effect, the risk was assigned to- and accepted by the concessionaires without satisfactory knowledge as to its nature and extent.

The other logical option would have been for the framers of the privatization process to try to address pre-existing information problems first, to understand the risk better and at the very least to allow the bidders to incorporate mitigation in their technical and financial bids and to provide them a better basis for estimating the minimum tariff that they would require.

The problem of valuing assets has significant implications for the risks faced by private investors and their creditors. If more investment is required than was expected in the initial tariff determination and tariff renegotiation is costly and fraught with uncertainty, private developers and investors may find that contractually agreed upon returns are insufficient. It will be shown in succeeding sections that the rate rebasing process acts as an all-purpose insurance policy by helping a concessionaire achieve financial balance, in case its financial model assumptions turned out to be too different from actual costs and revenues. After the first rate re-basing exercise the tariffs were to be set at levels that would allow for a market-based rate of return, past costs not recovered through tariffs were also to be reimbursed through a new tariff provided these

were prudently and efficiently incurred. Given the non-negligible chances that the company could become bankrupt before relief is provided by rate re-basing or that significant amounts might not be reimbursed by the regulator creditors needed to be very careful. Due diligence on the value and productivity of the assets in the hands of the operator is one of the most important investigations that creditors need to make.

But knowing the condition of assets is only a first step. Expectations of improved revenue streams may not materialize even after rehabilitation. When new pipes were laid out in one municipality (Caloocan) and old pipes were disconnected from the supply mains and de-commissioned water continued to flow through old distribution networks providing a supply to illegally-connected households. This is of course not a problem that was only recently discovered by Maynilad. An evaluation by the Asian Development Bank of a major effort in the early 1990s to address the system-wide problem of non-revenue water (ADB 1997) had this to say in conclusion:

“The rehabilitation projects and other activities aimed at reducing NRW have mostly focused on the service connection level through installation of secondary and tertiary distribution pipelines and their interconnections followed by undertaking various corrective measures. The continuing high level of losses system wide may indicate that the root cause of the problem has not been addressed. It could be that there is something more fundamental in the overall system design and operation that is aggravating the NRW problem. In this respect, it is noted that the Manila water supply system appears to differ from systems in many other cities.”

In other words the MWSS discovered that addressing physical losses due to leaking pipes is at best only a partial solution. Levels of non-revenue water deteriorated rapidly in the rehabilitated areas just a few years after rehabilitation. Rehabilitation and the laying of new pipes in an area will not necessarily result in the expected revenue stream and higher cost-efficiency based on the elimination of water wasted because of leaking pipes.

A concession involves inducing those relying on pilferage to rely on legal means of access to the service and the extension of services to previously unserved areas. In Manila as elsewhere in the developing world these previously unserved areas will have many unplanned settlements that will pose many legal and technical challenges to operators who have been used to one approach that fits all customer types. In other words, the technology for cost effective service delivery in unplanned areas is non-standard. Success in one country does not necessarily generate the lessons for success in another. The risks can also be quite idiosyncratic, tied up not only with the geography of particular places but also with social structures and formal and informal social rules. According to Suez (1998):

“The disadvantaged population varies greatly from town to town and even from one neighborhood to another..very little analysis of the requirements of these different populations has been made. The interaction between their current habits and any new water and sanitation facilities offered is seldom taken into account. So it is not surprising that the people concerned reject some projects, which were intended to considerably improve their living conditions. “

The highly idiosyncratic nature of settlements, the difficulty of resorting to individual meters and an undifferentiated level of service and the high operational cost of collecting tariffs, especially where incomes are irregular – means that it was important for the concessionaires to have a feel of the complexity of demand and the workable mode of payments and service delivery in the areas that are yet to be served. It was not apparent that the IFC was aware of these risks and uncertainty about the appropriate institutional technology for creating revenues in currently unserved areas and in areas with high incidence of illegal access. Awareness of such complexities is what led PPIAF (2002) for instance to argue against specifying concession outputs too strictly if one wants to bring services to the poor, arguing as does Suez (1998) that there will need to be a lot of flexibility in terms of the approach to be used. Indirectly, but very clearly, this tells us that the most appropriate technology and institutional set-ups that bring together the willingness to pay and the commercially motivated supply is usually also “learned only by doing.” The appropriate approaches would be difficult to discover thru desk-based studies or even surveys. This much is apparent in Metro Manila after half-a decade of efforts.

In other words, even without the cloud of adventurous bids that, there were large potential deviations between the presumed and actual condition of assets, between the presumed and actual costs of rehabilitation and between the presumed and actual economic effectiveness of planned investments.

The limited capital market financing of water and sanitation indicates that individual investors are not in a position to accurately evaluate and mitigate the risks. According to Haarmeyer and Mody (1997) Anglian water is perhaps the only exception -- this company was able to float 20 yr bonds at just 54 basis points above UK treasury bonds. Efficiently operated utilities with long operating histories tend to have more secure and predictable cash flows compared to Greenfield projects (Haarmeyer and Mody)¹⁵. In contrast, the public utility in Manila did not have a long period of efficient operations.

In developing country contexts this might mean that the risk of failure to achieve financial closure would be least in utilities where previous public sector reform has already made some headway. An example of such a utility would be the concession in Santiago in Chile. The gains from privatization, however, unsurprisingly quite modest especially because the benchmark is a state sector that has already shown a capacity for initiating reform and succeeding at it (Shirley et al 2000). In the absence of prior reform, a deliberate approach designed to reveal the condition of the assets and the nature of the future operational risks and challenges especially for reaching previously unserved customers emerges then as a requisite for the drafting of realistic contracts, for the determination of realistic tariffs and for reducing the information deficit that creditors, shareholders and regulators must confront.

¹⁵ Mody also mentions other categories of risks that are unique to water and sanitation projects, but perhaps not specifically to the project type found in Metro Manila.

The approach that was taken in Metro Manila, a take-it-or-leave-it proposition, may have been chosen to save time¹⁶. An asset condition report could have been implemented before the auction or the full transfer of the concession and these could have provided a more reliable basis for the bidders' assessments of the commercial value of the concession assets. In Trinidad and Tobago "little information on the condition of the system or on water consumption patterns" was available (Nankani 1997). So a step-wise approach to private sector participation was adopted. The government thought that it needed time to establish an effective rate setting mechanism or a basis for setting an initial tariff for the bidding process "so that bidders could develop reasonable estimates on the long-term risks and probable rate of return. A pre-concession or enhanced management contract was first implemented to try to achieve this. In Metro Manila, none of the less risky modes of private sector participation, that could have been a prelude to deeper engagement of the private sector (e.g., lease or management contract) were recommended by the IFC¹⁷. This approach has the benefit of achieving quick take-off but the dangers of disappointing popular expectations in the medium-term – in terms of drastic tariff adjustments for instance during the first rate re-basing exercise.

An asset condition report and the approach taken in Trinidad and Tobago could both have revealed important characteristics of the water utility assets. But the other risks about which the concessionaires had little information – the nature of demand and the idiosyncrasies of service delivery approaches in unplanned settlements – would perhaps have been better understood through a pre-concession process such as was undertaken in Trinidad and Tobago. The Philippine government itself did not innovate on approaches to serving unplanned settlements and other hard-to-reach areas. This is why there was neither a useful data base nor company personnel and routines around which the private concessionaires could build a strategy to reach unplanned settlements in a cost-effective manner. In the Casablanca concession of Suez information about the balance sheet of available services, levels of satisfaction of existing customers and expectations of future customers was gathered right before and at the start of the concession¹⁸. This approach would have changed the assumptions and general complexion of the business models that underpinned the bids in Metro Manila.

Because creditors were financing 70 percent of project investments they were taking a lot of risk. Because the project company itself was undercapitalized, it was necessary for creditors to make sure that the company was not taking on risks that it could not handle and which could eventually lead to cash flow problems. It must have been difficult for creditors to assess risk, let alone accept the risks being assigned to them. Because of the opaqueness of the bidding process itself discussed in the previous section, there was that added uncertainty on whether the company itself revealed its true valuation of the assets that it was taking over and of its ability to make them productive.

¹⁶ The incumbent president's term of office was nearing its end in 1998. There was a campaign to extend his term via a change in the country's constitution and a corresponding race against time to showcase his administration's successes.

¹⁷ Based on an interview with Mr. Angel Lazaro, who headed the MWSS during the transition to operation by the concessions.

¹⁸ Suez (1998) Water Supply and Sanitation in Areas with Limited Financial Resources

The creditors must have been waiting to find out what kinds of improvements to the contract were possible, especially as details of the asset condition in the West concession began to be known. One key improvement to the contract was the promise from the government that the rebasing of tariffs and performance targets would happen on the fifth instead of the tenth year, another was that the government would cooperate with Maynilad's creditors to address some of their concerns¹⁹. The unwillingness of the creditors to clinch the financial deal with Maynilad may have been related as well with the absence of real-life tests of the willingness of the regulator to agree to tariff adjustment requests of the concessionaire –e.g., el nino.

The overly protracted legal documentation that would give comfort to the lenders , however, need not even be interpreted entirely as part of a post-auction effort to improve upon the contract that Maynilad needs to implement. It may also or alternatively be understood also as an effort on the part of creditors to secure their own interests just in case the project company does go into bankruptcy for having bitten off more than it can chew²⁰. In fact even if it turned out that Maynilad's bid was not adventurous, as it may not have been relative at least to Manila Water's bids in both concession areas, the residual uncertainty discussed above about the West Zone's buried assets would have been sufficient to prompt creditors to implement a more exacting and long-winded due diligence process. In addition to that, however, it was possible that the creditors saw the need to be quite meticulous in their documentation of their step-in rights as they were beginning to see contrasts between the West Zone concessionaire and the better-performing East Zone concessionaire.

The Maynilad lenders, unlike the Manila Water lenders, wanted more air tight provisions and documentation about their legal rights pertaining to their step in rights in case of bankruptcy, the priority of their claims over the concession's revenues versus claims of the MWSS's for concession fees that was also stipulated in the contract. In other words the project finance mode in a context of highly asymmetric information about concessionaire capacity and productivity of concessionaire assets really increased the likelihood that creditors would be extremely meticulous in their due diligence process.

¹⁹ Creditor concerns are summarized in the 2003 testimony of Ms. Macra Cruz, MWSS Deputy Administrator, before the international arbitration panel that heard Maynilad's petition seeking to terminate its contract for reasons relating to the government's failure to honor its obligations to the company.

²⁰ In the event that Maynilad quits as concessionaire, the lenders have a say in recommending the replacement operator for the west Zone. MWSS deputy administrator Macra Cruz claims that the creditors "specifically want Manila Water." Among the creditors seeking such a condition are Citibank NA, BNP Paribas, Barclays Capital, Tokai Bank of Japan, and Coface of France. Gaylican April 1, 2002 Philippine Daily Inquirer.

Box 3. West Zone Lenders' Concerns

Among the enhancements that the existing West Zone creditors wanted were the following: i) allow a possible future replacement operator²¹ to take on only a portion of the present inherited loans, instead of the entire amount, and ii) allow the future replacement operator to negotiate with the MWSS over the business plan and performance commitments, iii) give the pre-existing banks a claim on the cash flows of the West Zone concession that is senior even relative to the claims for the payment of the loans inherited by the west Zone concessionaire from the MWSS.

Interview with Macra Cruz, Deputy MWSS Administrator

This is probably not because the creditors were already convinced that Maynilad would go bankrupt. It is entirely possible that the creditors themselves did not really know how to assess the real feasibility of the company's business plan and did not know how to disentangle the effects of the crisis from the effects of what may have been an unrealistic bid from the very start. The creditors of Maynilad were, however, aware of the significant overshooting by Maynilad relative to Manila Water (documented below) of its target unit production cost. This could not have been read as a piece of good news by Maynilad's creditors. It was after all Manila Water, because of its far lower bids for both concessions, that one would have expected to experience greater difficulty in achieving performance targets that it initially set for itself.

Manila Water itself was not extremely affected by the financial crisis in terms of unanticipated foreign exchange related costs. But the company has also significantly underperformed in terms of sales and its own program to reduce water theft and leakages. Its own creditors had to wait for demonstrations of efficiency gains especially those achieved on the cost side, even after the ADR adjustment, instead of merely taking the financial model projections at face value.

In any case, Maynilad's creditors did not have solid basis for assessing the true feasibility of Maynilad's business plan and bid financial model. In addition to the overshooting of costs, the company did not have a blueprint for its plan to reduce its non-revenue water. The outlines of a plan only became available in April 2000 (Krieg, 2003). This was a major component of Maynilad's capital expenditure program and a major efficiency driver for the company. The April 2000 plan, however, did not have area-specific estimates of the magnitudes of water lost due to theft versus water lost due mainly to the bad state of the pipes in the West Zone's. Manila Water was way ahead of Maynilad in building this crucial data base on which would hinge the efficient deployment of personnel and capital. It was only in 2004, with the physical sub-districting of the West Zone concession water flows, that the building of this data base was done in earnest in Maynilad²².

²¹ The West Zone creditors were eyeing the East Zone operator as a replacement in case the existing one becomes bankrupt. Despite its lackluster performance the East Zone operator is still the only company with the track record for operating a large water utility in the country.

²² Interview with the new Maynilad President Fiorello Esruar, November 2004.

It is in the nature of project finance that creditors for the West Zone concession only had very limited recourse to significant equity from the project sponsors in case of bankruptcy. But even assuming a scenario where the project sponsors put more assets on the line, it must have still been important for the creditors to perceive some evidence of viability. Manila Water managers would always narrate the company's extreme frugality with resources in the aftermath of the crisis. Manila Water officials believed that creditors wanted promising projects, in addition to assets offered as security by project sponsors. International creditors were being highly selective in the projects that they fund. In other words, the clinching by Manila Water of its financial deal with its creditors did not necessarily require protracted due diligence and contract amendments to remove the uncertainties and to secure creditor rights. The willingness of the project sponsors to put in their own capital and the initial successes that they made in terms of controlling production costs seemed most important.

Project finance people in effect do their own due diligence. The original financial model of both companies may have been the basis of the bids for the concession, but creditors knew (what the regulator discovered during the rate re-basing exercise) that the bid financial models cannot be a basis for assessing the bankability of a project. And where there were problems with the technical and financial plan of the concessionaires then the creditors will want to insist that specific risks be mitigated or, if that is not possible, insured against priced and allocated properly. Since the project company is a thinly-capitalized special purpose vehicle that will borrow the project debt, the project lenders will be sensitive to contractual arrangements that place significant risk on the company. In case of cost-overruns for instance, creditors will want the shareholders to subscribe to additional shares in the project company, especially if it does not seem entirely clear in the contract that customers should be responsible for all costs exceeding the concessionaires' financial model. In the case of revenue risk, creditors will go beyond the bid financial model. They will need to look into the factors that may affect the level of project revenue. In case the factors affecting revenue are not well understood, creditors will be monitoring financial ratios at regular intervals. "Failure to meet those ratios may trigger increases in monitoring and prompt demands for remedial action, as well as blocks on the payment of distributions to shareholders" (Morrison et al, 2000²³) While this due diligence process was underway the West Zone concessionaire's creditors only provided short-term bridge loans during the first five years backed up by capital of the project sponsors.

Whatever the legal documentation may say, great reliance is always placed on the degree of confidence that project lenders may have in the ability of equity participants to "do the job." That confidence is directly influenced by the signal emanating from how much of their own money project sponsors will put into the deal – and how long they are prepared to keep that investment there. "Project lenders will generally wish to see a sizeable

²³ Neil Morrison and Joanne Anderson, Partners, Rowe & Maw "The Ins and Outs of Project Finance" Corporate Finance Treasury Management International

commitment to retain equity at least until the construction phase has finished and, usually, well into the operating phase after a meaningful proportion of project debt has been repaid “ (McCormick 2001).

Because the size of equity investment is seen as a “cushion” for risk, it can significantly affect project lenders’ views as to the rigor needed for project covenants and conditions in the financing and project documentation, particularly those directly affecting sponsors. In short the longer you can see that first class, experienced sponsors will keep their own money in a project, the more confident you can feel that it will be made to work, irrespective of the detailed contractual provisions.”

During the June 4, 2002 Benpres Annual General Meeting Mr. Eugenio Lopez told the shareholders that Maynilad’s prospective term lenders were requiring Benpres to put in additional equity as a condition for granting the long gestating \$350 million term loan that was to finance the capital investments during the first five years of the concession. Ondeo was willing to put in its own additional equity in the West Zone project company after the Asian financial crisis, the Lopezes were not similarly disposed. It is well known that Benpres companies were also experiencing severe debt problems in telecommunications and power distribution, which could have been taken to mean that Benpres shareholders themselves were not confident that Maynilad can be turned around – this turned out to be the shareholders’ disposition even after the Regulator authorized a tariff by November 2002 that would have been five times of the original bid. Perhaps Benpres’ own signaled lack of confidence in its own project is also an important reason why the creditors said that it would not be possible for them to restructure obligations unless it was also clear that Benpres was going to be replaced by a new project sponsor. This is reflected in the language of the substitute business plan that was submitted to the government in October 2002 by Ondeo for the rate rebasing process.

In the case of Manila Water, the ability of the corporate sponsors to put their own corporate balance sheets at risk could only have helped hasten financial closure.

Project finance is a costly and complex process of identifying and evaluating risks associated with future cash flows of projects. The long lead times and high transactions costs associated with project finance are likely to make it less attractive to creditors than finance raised on the balance sheets of larger companies. The prefinancial closure cost of preparing a limited recourse financing for a power project ranges between \$4 million and \$8 million, with legal costs representing about half of these costs (Churchill 1995²⁴). Corporate finance, which was more or less the approach used by Manila Water, simplifies this transition to capital market financing, since the risk of a project’s debt is absorbed, in part, by other corporate activities. Financing project debt from the balance sheet, however, exposes a company to significant risk and thus requires a strong and large balance sheet.

²⁴ Cited in Haarmeyer, David, and Ashoka Mody (1998) “Tapping the Private Sector: Approaches to Managing Risk in Water and Sanitation.” RMC Discussion Paper 122. World Bank, Resource Mobilization and Cofinancing Vice Presidency, Washington, D.C.

Before capital markets can be accessed the cost of assessing, allocating, and mitigating project-related risks must decline. Alongside that, this section of the paper argues that the risks and viability of business plans need to be discovered through methodical approaches, especially in the case of older utilities whose recent track record has not been good.

All of these tell us that the risks and uncertainties in water concessions are greater compared to other utilities sectors such as electricity generation, where project finance has taken a foothold. Yet still most of the literature does not only argue that the project finance mode is necessary, based on the reasoning that no single company has the equity that can back up the investments needed in large water sector concessions. An optimism is also constantly conveyed about the feasibility of using the project finance mode. That optimism does not appear to be warranted. This section argues that this optimism may have met its match in the water concessions in Metro Manila.

There are systematic reasons why financial closure has been difficult to achieve for the concessions in Metro Manila. The discussion above has been extremely charitable to the privatization approach in that it tries to look for information problems that lead to financial market failures. The entire section argues that even “bankable” concession projects may fail to find financing.

But the possibility is also strong that even a project company that made no deliberate attempt to bid aggressively may still discover that it’s not up to the job, that it unintentionally bit off more than it can chew? In Manila this realization would have been learned-by-doing, after the company and its creditors have already sunk some of their own funds for investments and operations. It is never in the interest of the project company to admit its inability because this jeopardizes attempts to recover their exposure. The project company may not only turn out to be incapable of doing the job and incapable of mobilizing the necessary financing. It will most probably also be unwilling to let go of its concession, more so if this comes with the realization in its books of financial consequences of failure. What seems to have happened Manila is that once the difficulty and intricacy of the tasks of operating and expanding the system were gleaned, further investments by shareholders and creditors had to be suspended. In the end, what is likely to happen is that tariffs will be raised, promises to raise efficiency will be made, some additional equity will be infused into the project company but the creditors will agree only to a scaled-down version of the much-delayed project finance loan. This logic is now being played out in a local rehabilitation court in the Philippines.

In thinking of water concessions there now appear to be two options. One is for technicians and their sponsors to once again deploy their usual optimism and confidence about the possible technical fixes. The other approach is to acknowledge the possibility that market failures such as the ones encountered in the first five years of the Metro Manila concessions may have no real solutions in sight. In that case technical optimism may perhaps be better exercised in the direction of achieving reforms in the sector via the reform of public companies rather than thru deep engagement with private sector players.

The simple advantage of public companies is that they enjoy the support of sovereign states. The risk that needs to be insured against, if not totally avoided, is that of shaping the expansion of the services in the water sector around the achievement of bankability of a project company.

The initial conditions of asset opaqueness, the possibility of adventurous bids in 1997 and the operational uncertainties made it very difficult to expect commercial success of the project companies without post-auction amendments and renegotiations of the contracts. Unfortunately these have the effect of undermining the idea of competition for entry into the concession.

The rate re-basing process discussed in the next section reveals the very large disparities between economic assumptions made by the bidders to establish their initial tariffs and their actual performance. The rate rebasing process also is, in effect, the post-auction renegotiation that would cure the financial troubles in which the two concessionaires found themselves.

Contract Renegotiation via Rate Re-basing

A rate re-basing exercise that reviews past cash flows as well as future cash flows is scheduled every five years. The first one was optional but was made mandatory on the request of the private concessionaires²⁵. Rate re-basing is done to ensure that the private concessions get a minimum return equivalent to the Appropriate Discount Rate (ADR). The ADR is implied in the original bid and is subsequently determined based on market benchmarks during rate re-basing exercises. The East Concessionaire, however, was able to get a large increase in its ADR even before the first rate re-basing exercise in 2002. The original ADR of the East concession as computed by the Regulator based on the submitted business plan was below six percent. However, it was adjusted upwards to nearly 10 percent when an international arbitration panel that was asked only to clarify how the implied ADR was to be computed from the East Zone's business plan ended up supplying an entirely different ADR figure. This figure was a compromise between the Regulator's computations and the concessionaire's assumption that it should be given a market-based ADR.

It can happen that a concessionaire may on average earn revenues then give it a return below ADR in the years prior to rate re-basing. This could happen if the concessionaire is unable to attain efficiencies implied in its business plan. Relief will come only after rate re-basing and after the company suffers for its inefficiency. The Regulator ensures that the concessionaire earns a proper return on its investments in a forward-looking fashion²⁶.

Section 9.4 of the Concession Agreement also states "it is also the intention of the parties that rates be set in such a way as to provide appropriate efficiency incentives to the

²⁵ Amendment One to the Contract – for details see (Esguerra 2001, 2002)

²⁶ The author is not 100 % certain about the accuracy of this last statement.

concessionaires, with a view toward benefiting both the customers and the concessionaire.” Operationally this means that if the concessionaire reaches a profitability that is beyond the ADR, the concession contract instructs the Regulator to let the company retain some of that excess in the years following rate re-basing.

During rate re-basing the Regulator also is permitted to disallow cost recovery for investments that were “imprudent or inefficient”. This concept continues to be a source of controversy between the Regulator and the concessionaires, especially because the Regulator gave no prior warning of which assets and expenditures were to be disallowed. During the 2002 rate re-basing exercise the Regulator largely used the companies’ own financial bids as the basis for determining “prudent and efficient” operating expenditures. Some incomes were also disallowed. The legal ramifications that guided the Regulator in specifying what were “prudent and efficient” capital expenditures require a discussion that is legally very complex. An efficient investment is one that generates the intended outcome, it would nevertheless be classified an imprudent investment if its acquisition did not follow standard procurement processes. All in all P2 billion pesos in east Zone expenditures were disallowed. P8 billion pesos in West Zone expenditures were disallowed.

The East Zone concessionaire did not contest this determination of “disallowed expenditures” by the Regulator. In its major outlines, the process of determining disallowances was based on accepted international regulatory practice. The disallowances in the case of the West Zone were very large and the company brought this up as one of its criticisms of the whole set-up during the Arbitration in 2003, where the West Zone Concessionaire sought to terminate its contract with MWSS. While the Arbitration panel denied the West Zone’s petition for the termination of its contract with MWSS, it also commented that the Regulator might have disallowed too many items.

Uncertainty about the rules on disallowances and the inability of the Regulator to inform the concessionaires as to its operational definition of this concept meant that the concessionaires had no clue of the extent to which expenditures would be disallowed. It is conceivable that this lack of an operational definition of the prudence and efficiency criteria could have also led the private concessionaires to make bids that were premised on a belief that regulation would be light-handed. One would think that, had the private concessionaires known that the Regulator would take the implied efficiencies in the 1997 bids seriously, even imposing penalties for deviation from these, then one can presume that bidders would have been more cautious.

The rate re-basing exercise is actually also a review and revision of virtually all of the assumptions made during the time of the bid. Thus, a new ADR different from the bid ADR was determined; service improvement targets were postponed based on water supply or financial and operational constraints of a company. The Regulator is also authorized by the concession contract to persuade and instruct the concessionaires on what it deems to be more efficient approaches to achieving performance targets. The basis for this intervention is the knowledge of Regulatory office consultants about international best practice. Most importantly, the Regulator using local and international comparisons as well as information about the past performance of both concessionaires

comes to an agreement with the concessionaires on target operations and capital investment expenditures. In the end a new business plan as well as a new tariff is determined.

The Manila Rate re-basing exercise in 2002 featured a major innovation. Financial penalties and incentives have been introduced in case of deviations from the new annual non-revenue water reduction targets. These rewards and incentives will come in the form of allowances and disallowances in the opening cash position during the next rate re-basing exercise. While there is a normal penalty for failing to address commercial losses in terms of forgone revenue, it was deemed necessary to provide more inducements for achieving efficiencies. One may look at incentives for the reduction of non-revenue water as a substitute for a price for raw water that is wasted, given that there is no raw water charge in the country. Perhaps more correctly, however, the presence of a guaranteed ADR return on investments blunts the private companies' drive for efficiency and these new incentives provide a guarantee that stockholders and employee can to some extent become residual claimants of profits arising from their innovation and effort²⁷.

Despite the disallowances on expenditures imposed by the Regulator during the 2002 Rate Re-basing exercise, the resulting rate increases were very high. Compared to the original bids, nominal rates in the West Zone were authorized by the regulator to be five times what they were at the time of the bid – from P4.56 to P25.00 per cubic meter. Rates in the East Zone were authorized to be about seven times what they were at the time of the bid – from P2.32 to P15.65 per cubic meter.

Note that inflation was below 5 percent during the first five years. And while the devaluation of the Philippine Peso relative to the US dollar was indeed huge at more than 100 percent, a doubling of the tariffs is about the extreme that one would have expected out of that unanticipated episode, even assuming that all costs are denominated in foreign currency. In other words, it is still not straightforward for the public to understand why tariffs have been authorized to increase by as much as they have been.

In the case of the East concession, an important explanation involves a near doubling of its guaranteed return – its bid implied that it was allowed no more than a six percent ADR until the first rate re-basing exercise. But the most important explanation lies in the higher budgets that have been granted for the operations of the two companies from 2003 onwards – this will be discussed in greater detail below.

In essence, the Regulator has come to the conclusion that the efficiencies implied by the original bids and business plans in 1997 were unrealistic. In the case of the East Zone concession, even in the event that the efficiencies in the original business plans were achieved, the financial plan, because it starts with a very low tariff, implied huge negative cash flows during the first ten years or until the first rate re-basing was concluded. Those negative cash flows were to be charged to the 2003 to 2022 tariffs. For both reasons, a

²⁷ As of this writing it is still unclear whether the Regulator and the east Zone concessionaire reached agreement on additional incentives for exceeding or falling below target operational expenditure levels.

significant adjustment in the rates had to be made so that the business plan for the next twenty years can be financed.

The first rate re-basing exercise reveals the wide discretion and full powers of the Regulator. It was a major event that was needed in order to correct the major cash and performance imbalances that simply had to emerge as a result of a faulty start. The next rate re-basing exercise in 2007 will not be as contentious as the first one. The Regulator will by then also have enough basis in terms of past performance levels; this means that it will be easier for the Regulator and the regulated companies to reach agreements on potential operational efficiency achievements, technologies to be used, costs that will be recovered from consumers and expenditures that will be deemed “prudent and efficient.”

Revised Assumptions About Future Efficiency Levels

At the start of the rate re-basing exercise in 2002, both the East and West Zone concessionaires were asked by the regulatory office to provide a new forecast of future operational expenditures (OPEX). The profile of future OPEX contained in the concessionaires’ re-basing forecasts compared to the profile contained in the original bid forecast for years 2002 to 2022 looks like the following: the East Zone forecasted OPEX/BWV are higher by P2.00²⁸ relative to the bid forecast²⁹. The initial OPEX/BWV forecast of MWSI showed that this would exceed the original bid by P2.00 over the span of 2002 to 2022, but only after being P8.00 above bid in 2002 to being around P3.00 above bid levels in 2007.

The review of rates in 2002 was an exercise to understand these deviations from the original bids and to analyze what was avoidable and what was not of the actual and projected operational expenditures of both the East and West Zone Concessionaires. Those that could have been avoided were to be removed from the amounts to be charged from consumers. Those operational expenditures that were not anticipated in the original bids but were nevertheless deemed to be “prudent and efficient” were to be incorporated into the basic charge. In going through this complex process for the first time the Regulatory Office and its consultants were guided by international benchmarks on costs of reducing NRW, efficiency comparison between the two concessionaires, comparisons between the two concessionaires and public water companies in the provinces outside of Metro Manila, comparisons between actual and bid expenditures and implied efficiency assumptions. After agreeing with the concessionaires on what seemed to be prudent and efficient forecasts of sales and expenditures, the rate re-basing exercise most importantly introduced rewards and penalties for exceeding and for failure to reach operational efficiency targets and annual NRW reduction targets. The MWSS-Regulatory Office and its Consultants took the lead in formulating efficiency and NRW trajectories. The concessionaires supposedly proposed a symmetrical reward and punishment regime based on the format below.

²⁸ This is in NPV terms.

²⁹ To infuse some sense of proportion to these numbers, note that the original nominal bid of the East Zone Concession was P2.32 and that of the West Zone Concessionaire was P4.58 per cubic meter.

Proposed NRW Incentive Framework

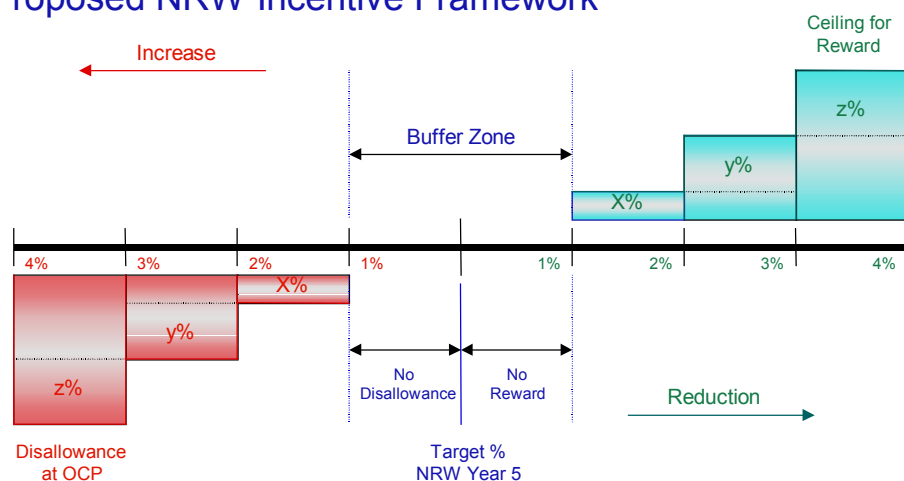


Figure 1 outlines the general incentive scheme proposed during the rate re-basing of 2002 to be applied to both operational expenditures and NRW reduction targets. The NRW reduction incentive scheme continues to evolve but was originally proposed by the MWSS-RO and its consultants in accordance with the following principles:

The service provider receives 50 percent of the cost of treated water saved. This cost is calculated in accordance with business plans approved during the rate re-basing exercise of 2002. The reward or penalty for excess non-revenue water compared to the target becomes part of the opening cash position during the next rate re-basing exercise in 2007. Rewards and penalties become applicable only beyond a one percent buffer Zone on either side of the NRW target. The regulatory office set annual targets and corresponding annual threshold NRW levels for the activation of the symmetrical incentive schemes. In March 2004, however, the Regulatory Office decided³⁰ to remove the symmetry from the incentive scheme and allowed for a two percent deviation from the target NRW before penalties come into play. A reduction of NRW, however, that is one percent better-than-target triggers the reward scheme. The Non-revenue Water (NRW) annual targets and penalty and reward thresholds of Manila Water Co. Inc. are now as follows:

	2002	2003	2004	2005	2006	2007
End-of-year NRW Target	53.5	51	49	47	45	43
Reward Thresholds	52	50	48	46	44	42
Penalty Thresholds	55	53	51	49	46	44

This early amendment to the NRW reduction incentive scheme was requested by the East Zone Concessionaire, citing the two-phase implementation of the rate re-basing tariff increases as the reason why they have become more cautious about the NRW targets

³⁰ MWSS-RO Resolution 04-002-CA – this resolution initially applies only for the East Zone Concession. The west Zone Concession continues to be in a legal bind and as of this writing still does not bind itself to rate re-basing business plans and incentives proposed by the MWSS Regulatory Office.

approved during the 2002 Rate Re-basing exercise. The two-step tariff (instead of one-time) tariff increase in turn was adopted on the instructions of the incumbent president, who was worried about the effect that utility rate increases seem to have been having on her popularity ratings (Maragay, 2002). The second part of the tariff increase was to be implemented after the presidential elections in May 2004.

Box 2 below shows the text of a proposal made by consultants of the regulatory office for an incentive scheme for achieving or exceeding improvements in operational expenditure targets. As in the case of NRW, there is a natural incentive for trying to bring down operational costs. Schemes such as these, however, would raise the stakes in the achievement of efficiencies. This proposal was already accepted by the East Zone concessionaire.

Box 2. Incentives for Sticking to Opex Cost Targets

The concessionaires' operational performance is most simply measured by their adherence or otherwise to their forecast OPEX spending linked to their achievement of operational Key Performance Indicators.

In order to use OPEX as a measure it is important to be sure that the OPEX forecast proposed is realistic for the anticipated level of service (defined by KPI's - Key Performance Indicators) to be provided to customers.

As with any budget it is highly unlikely that there will be exact correlation between forecast and actual spend performance. For this reason it is proposed that once the OPEX forecast is accepted a deviation from the forecast of +/- 3% will result in no penalty or reward.

In the case that OPEX spend is more than 3% below forecast, with satisfactory KPI performance, a reward will be given to the concessionaire.

In the case that OPEX spend is more than 3% above forecast with or without satisfactory performance, then a penalty will be levied on the concessionaire

The reward or penalty will be realised as part of the next re-basing exercise as an allowance or disallowance respectively in the opening cash position.

The size of the reward or penalty should be equal to 50% of the total deviation from the forecast level.

We suggest that total OPEX is used as the measure rather than individual components of OPEX, however given the variability of power pricing we believe that power cost should either be excluded from the OPEX forecast measurement, or the actual power cost should be adjusted such that any cost over and above CPI is removed from the calculation.

MWSS-RO Rate Re-basing Technical Review Document

Limitations of the West Zone's Explanation for Difficulties it Encountered

An argument that is frequently made by the West Zone concessionaires is that it is analytically not sensible to use the original plans of the concessionaires as the benchmark

for assessing their subsequent performance³¹. “Because of unanticipated events” the expected loans could not materialize³². Thus the investments that would have created the efficiencies also could not materialize. This manner of explaining away concessionaire failure do not seem satisfactory because of the following:

First, El Niño effects were much more severe in Jakarta, but Jakarta West (operated by ONDEO) managed to bring down non-revenue water from 63% in 1998 to 47% by September 2001. Moreover, Indonesia suffered a much more devastating currency depreciation impacts than the Philippines for the same period.

Second, an amendment to the concession agreements was granted by the government in 2001³³. This allowed both concessionaires to quickly generate the revenues that would pay for the unanticipated costs of the fall of the local currency. If that were not enough comfort, the amendment also gave the concessionaire creditors and shareholders the assurance that a rate re-basing exercise would be held in 2002 instead of 2007 – this allowed for hefty tariff increases incorporating assumptions of lower actual efficiencies, side by side with the postponement of compliance with several contract obligations. Contract obligation adjustments such as on coverage and water pressure would reduce the capital expenditure requirements of 2003 to 2007.

Third, NRW reduction, which is a core efficiency-enhancing program, is not capital intensive all the time. The West Zone having spent a surprisingly large amount of resources for operating expenditures should have been able to accomplish something in this department instead of creating a situation worse than what it started with – by 2002 70 percent of the water that is extracted, stored, treated and pumped through the pipes of the West Zone is lost. This is more than 10 percent higher than the starting NRW in 1997. The target NRW for 2002 was 30 percent. Nighttime measurement of flows would have revealed the relative proportions of commercial and physical losses; typically only one-half of the leaks are due to physical losses. The rest of the non-revenue water can be addressed without necessarily making capital investments. Neither concessionaire, however, has been able to map out the physical versus the commercial losses in their respective areas by the time of the 2002 rate re-basing exercise - five years after the contracts have been awarded.

Fourth, the East Zone was able to reduce costs significantly although it was only able to make a little over half of the necessary investments – not all of the cost reduction were merely due to the higher sales that they were able to achieve.

The West Zone managers also claim that the failure of the government to deliver an additional 300 MLD of water by 2001 greatly affected revenues. The Regulator agrees

³¹ Interview with Yves Boris in 2001, conversation with head of the office of the government corporate counsel, which headed the arbitration panel.

³² The West Zone concession was more severely affected by the devaluation of the local currency because it inherited 90 percent of the foreign currency-denominated obligations of the MWSS. Its original bid, being twice the winning bid in the East Zone, partly anticipated this bigger burden but not the risk of a major devaluation of the currency.

³³ For a detailed discussion of this Amendment 1 see Esguerra (2001)

that this is a valid issue, but it explains little. Had the 300 MLD been delivered as promised, the West Zone shortfall in billed water volume would have dropped by an average of only 22% per year after adjusting for its NRW rate. This roughly reduces the total water revenue shortfall from P16.6 billion to P13 billion.

The facts will more easily support a balanced argument that lays the fault both on the unanticipated events that resulted in commercial losses and investment delays and on the inability of the company to focus on achieving its anticipated efficiencies. It cannot be overemphasized, however, that the first amendment to the contract granting cost recovery mechanisms and an early rate re-basing constituted a highly supportive response on the part of the government to help the West concession deal with the unanticipated contingencies. The ruling of the arbitration court³⁴ denying the petition of the West Concessionaire to find the government at fault for neglecting its obligations also testifies to this. In the end, the pre-requisites that the West concession needed to achieve financial closure with its creditors were made available to it.

Achieving Universal Service Coverage

Near-Universal Water Service Coverage during the first five to ten years anticipated in the original business plans were the most pro-poor elements in the contract. As Table 3 produced from the Family Income and Expenditures Survey (FIES) shows, households in the poorer quintiles especially in the areas of the West Concession have the highest dependence on water delivered by peddlers. This is the most expensive water source. Investments for the physical expansion of the main lines, improvements in water quality, pressure and service availability need to be made to replace water peddlers. Households in higher incomes who were living in the suburbs of Metro Manila have been able to procure their own water wells. This, however, is not an option for poorer households. Ground Water mining in Metro Manila's southern towns of Muntinlupa, Taguig and Parañaque is also already about to be disallowed, due to severe salt-water intrusion that has been taking place.

³⁴ A copy of which was informally in the course of this research

Table 3. Household (HH) Consumption and Water Supply in the East and West Zones of the MWSS (by Income level, FIES 2000)		
Income Class/Type of Water Service/Consumption as % of Household Expenditure*	Proportion of Population Using Water Service West Concession	Proportion of Population Using Water Service East Concession
Lowest Income Quintile (Water Expense =2.65 % of HH Expense)		
Well	16.80%	20.60%
Peddler	15.20%	10.52%
MWSS	68.00%	68.88%
Second Income Quintile (Water Expense =2.09 % of HH Expense)		
Well	16.60%	18.25%
Peddler	14.05%	9.63%
MWSS	69.35%	72.12%
Third Income Quintile (Water Expense =1.89 % of HH Expense)		
Well	17.37%	18.16%
Peddler	13.11%	8.26%
MWSS	69.51%	73.58%
Fourth Income Quintile (Water Expense =1.6 % of HH Expense)		
Well	17.88%	17.12%
Peddler	11.85%	6.74%
MWSS	70.27%	76.14%
Highest Income Quintile (Water Expense =1.2 % of HH Expense)		
Well	20.12%	21.02%
Peddler	7.95%	4.61%
MWSS	71.94%	74.38%
ALL HOUSEHOLDS (Water Expense =1.82 % of HH Expense)		
Well	17.75%	19.09%
Peddler	12.43%	7.97%
MWSS	69.83%	72.94%

Source: National Statistics Office: Family Incomes and Expenditures Survey Data and computations cited in UpeCon 2002. Water expense/household spending pertains to rebased rates authorized by January 2003.

The first five years of the Concessions proved disappointing in this respect: both concessionaires were each able to implement less than half of their promised investments, with the West Zone concessionaire implementing only one-fourth of its capital expenditures³⁵ budget. The human consequence of this in terms of postponed water service coverage are detailed in Annexes A and B of this paper. The estimated average costs if a household relies completely on vended water for instance is around twice what it would cost if a household had reliable access to water from the piped distribution system.

³⁵ Audited Financial Statements

But that is not the entire story, there is also a major difference in the amount of water consumed per capita depending on whether the main source is the piped system or peddled water. Average consumption of households connected to the MWSS pipes is 27 cubic meters per month (156 liters per capita per day) with a median consumption of 18 cubic meters per month per household. Among poor households with direct connections to MWSS the mean consumption is 17 and the median consumption is 13 cubic meters per household. Assuming six persons per household, per capita consumption for poor households with direct MWSS connections is 94 liters per day while the median consumption is 72 liters per person per day. This is many times the per capita consumption of poor households that rely on vended water (15 liters per person per day). Aside from the high cost of peddled water there is also the added cost of treating the supply. This makes the cost of peddled water even more prohibitive.

The reasons for the failure to achieve the investment targets are discussed in other sections below. Other elements of the contracts must be seen as having secondary importance, relative to their general ability to induce the achievement and financing of promised service coverage and service improvement targets.

The analysis below will show that West Zone concession, through its sheer failure to make investments and to come close to efficiencies that will make the project bankable remains in start-up kind of stage, during which other pro-poor elements of the contract will hardly matter³⁶. In contrast, despite the major failures of the East Concession during the first five years, many indicators show that it has achieved operational efficiencies and a modicum of service expansion that now makes the East Zone expansion projects bankable.

In the setting of the East Concession, a discussion of strategies and policies that will complement the main utility's investment and service coverage expansion begins to make sense. And it makes particular sense to ask what and whether there are in fact limits to harnessing the private sector's commercial motives for the achievement of universal service coverage. Discussions below will also try to respond to such a question from the specific experience and legal and institutional element of the Manila concessions.

Pro-Poor Elements of the Concession Contract

The elements of Private Sector Participation in Manila that complement the promises of major investments to achieve near universal coverage are i) deviations from traditional exclusivity arrangements that could favor cooperation between concessionaires and third party providers, ii) the existence of consumption cross

³⁶ Some might, perhaps out of disappointment, hazard to put the cart before the horse and propose the scaling up of complementary and coping strategies so that these become the driving force for the achievement of service coverage. The attention showered by the World Bank and the Asian Development Bank in the Philippines to the needs and capacities of various types of Small-Scale Service Providers seems compatible with such an audacious (Quixotic?) approach.

subsidies, and iii) regulatory control and incentives over outcomes instead of inputs, which fosters service delivery innovation more closely matching consumer preferences and budgets iv) incentives for efficiency that can be compatible with bringing service to the urban poor.

Away from exclusivity -- **The Concession Agreements have provisions that indicate a move away from tight exclusivity arrangements and contains provisions that *might* even make provision of water services by third parties complementary to the achievement of private concessionaire targets.**

Older kinds of utility franchises grant exclusivity rights to the incumbent operator. In extreme cases, this can result in the consumers' being hostage to a slow pace or a low quality of service provision even where alternative service providers are willing and able to enter the franchise. Usually, settlements in the urban peripheries as well as those perceived by the utility to have unacceptably high risks but "not-high-enough" returns are most affected by service improvement postponements. It is safe to assume that the poor make up a disproportionate share of such settlements - being located in cheap and geographically marginal sites, being physically transient in make-shift settlements along water ways or roads that can be cleared for widening on short notice, and standing on shaky legal grounds when it comes to prospects that their informal settlements will soon become sites of their permanent homes³⁷.

There are of course important reasons for exclusivity clauses in public utility contracts - first, entrants into the franchise can permanently take away revenue-earning rights from the franchise holder when third party providers slice off pieces of the market. Second, this reasoning becomes even more persuasive where the sunk investments of the franchise holder in personnel expertise, raw water sources, water treatment plants main pipes and reservoirs were originally financed by creditors and shareholders on the assumption that they will be made to serve and earn a return on a big future market and not just on the limited market that the utility

³⁷ **The last two define tenurial insecurity, which is highly correlated with a blunted willingness to make investments in site improvements (such as piped water and sanitation) even where households happen to have significant financial resources. Utility operators learn to expect that people in such settlements, other things being equal, will be less willing to contribute to investments in permanent facilities that cannot be hauled onwards to the next settlement.**

is able to serve at start-up. Third, where main utility companies are mandated to implement cross subsidies for poor or marginal settlements the costs need to be recovered from the more affluent customers through higher prices. Without exclusivity rights, it can happen that, though it appears far-fetched given the huge contrast in quality and price between large utilities and alternative providers today, third party providers can poach the core customers of the main utility that are the basis of its scale economies.

How then do the Manila Concession Contracts avoid the dangers that are the justification for exclusivity arrangements while creating an environment where third party service providers are encouraged to fill service gaps?³⁸ In the section on exclusivity, the contracts state that a concessionaire may consent to the granting of a license to a third party to operate in its service area.

“This is important for low-income consumers, since many live in hard-to-reach settlements and depend on the services of small-scale providers. Coverage requirements are structured in a way that give the concessionaires an incentive to encourage third party provision. This is because coverage targets are partially fulfilled when any party serves new customers with a legal connection. The contract specifies that, “...the Concessionaire shall make at least sufficient connections... to meet coverage target percentages... (excluding users who obtain water from a legal source other than the MWSS system)...” The exclusion of users who obtain water from “a legal source other than the MWSS system” means these people are dropped from the equation determining the proportion of connected households. In this way, a smaller unserved population helps the concessionaires make progress toward their coverage targets” (Rosenthal)

It is, however, not clear that the Regulatory Office has made this kind of assessment during the first rate re-basing period. The inventory of Third Party Providers is only now being made through the periodic reporting of Key Performance Indicators in a format approved by the contracting parties during rate re-basing.

Cross subsidies – the cross subsidy structure is an increasing bloc tariff, it allows for subsidized consumption for the first ten cubic meters consumed. A household that consumes up to the highest consumption bloc ends up paying water that is four times

³⁸ The formulation of this question of course betrays an initial bias for achieving scale economies in the long run. This may run counter to the Dublin subsidiarity principle that says that the service should be provided at the lowest level possible.

more expensive than the first bloc consumers. This was inherited from the MWSS and was constructed on the presumption that low water consumption is indicative of poverty.

Cross subsidies for connections, however, do not exist. Still the contract can be consistent with an arrangement wherein capital expenditures for connections and extensions of service lines can be included in the CAPEX program and collected from all consumers over the life of the concession. It would appear that the practice these early years of the concession are not necessarily the result of contract provisions, but of the financial constraints that a concessionaire faces. The present arrangement requires connection fees and service line extensions from water mains to be financed from upfront contributions of the community, sometimes the company pays for these in advance and then collects over a few months. The private company does not get a return for such investments, since they are not part of its recorded capital expenditures; these assets become part of the MWSS assets. With the disappearance of the capital market constraint in the East Zone concession, arrangements where the concessionaire pays for the capital expenditures required will become more common. For instance, Antipolo, which is an uphill town in the East Zone will be connected through large diameter pipes with the main Balara reservoir. Big pumps will be procured to bring the water upwards and across a great distance to Antipolo. Antipolo residents, however, will be given a bill that is identical in all respects to the bill received by everyone else. The East Zone company also offered to replace rotted pipe networks inside middle class villages that are supposed to be the responsibility of the homeowners associations that run the local distribution systems. This would have allowed many middle class households to have individual meters and enjoy tariff levels for households instead of paying the more expensive business rates charged to businesses. The tariff implications, however, that would allow the company to recover the capital expenditures were not at a level acceptable to President Arroyo. These may be exceptions to the overall practice during the first five years of the concessions, but they demonstrate that i) there is no legal necessity to charging communities for the service lines that connect them to the water mains ii) solving the bankability problems can go a long way towards reducing upfront costs associated with having connections.

Regulation of Outputs, Not of Inputs -- The Manila Water Concession contracts and the regulation that ensued allowed the private sector to determine the standards that were to be used. Because the poor constituted a very significant number of the newly connected customers, connection fee expenses would have been a major hindrance to bringing the service to people. Multiple households are allowed to use a single meter to save on connection fees. Connection fees as noted above are being recovered from direct beneficiaries over a few months, instead of being bundled into the CAPEX program and recovered over the life of the contract. In addition to connection fees charged by the company, so-called after-meter expenses for pipes were also all for the account of the customers in poor communities. In fact, it is usual practice for the East Zone company to require the communities to have the after-meter pipes ready and laid out before the service line from the water main and the battery of water meters are established.

Ordinarily one would expect water meters to be located only a few steps from a house. This has in fact been an early practice in both concessionaires. Later on, the battery of meters began to be located at the “gate” of the entire informal settlement, which is usually on the sidewalk of a public road. As a result, after-meter pipes can run up to a hundred meters or more, which makes it even more necessary to find ways of bringing down costs. These after-meter pipes are usually made of either PVC or small diameter plastic pipes running along walls or above the ground along footpaths. This kind of set-up makes installation less costly for poor informal settlers. In addition, keeping the pipes above the ground also makes it easy to detect bursts water theft within the community.

This later approach of locating the battery of water meters outside of informal settlements has the advantage of allowing the company to avoid the complications of having to make improvements within the settlement itself, which is usually fraught with legal difficulties and causes much delay even where the property owner ultimately accedes. A distinct advantage to this kind of design, however, is also that any water lost due to leaks and theft inside the settlement is charged to the account of the consumer. The design itself creates powerful incentives for the community to address water theft and to repair burst pipes quickly – a great savings on operations expenditures. The East Zone company claims that NRW for its connections to poor communities is zero.

Profit Motive, Public Service

The business model adopted in the East Zone addresses has proved quite successful in terms of:

- Delivering water that is significantly less expensive and safer compared to water provided by small-scale water vendors that are independent of the water companies;
- Providing modes of being connected to the utility that significantly reduce up-front connection costs through the sharing of meters via group and bulk schemes;
- Reducing the capital expenditure requirements to the company of supplying connections to low volume consumers (important for the utility when there is limited access to financing); this is done by requiring households to purchase the after-meter installations, which are often a significant distance from the household. This approach is also responsive to the need to reduce company sunk costs in temporary settlements, where households are not in the process of collectively acquiring title to the property;
- Reducing the capital expenditure requirements to the company for supplying water to settlements that are a significant distance from the water mains or in an elevation way above water reservoirs; this is also done by soliciting counterpart-finance from local governments and other public officials for the extension of service lines from the water mains or for the provision of pumps and mini reservoirs (Villamor, 2003).
- Reducing the payment risk -- where other households in a settlement do not have connections they are able to purchase from neighbors who have a connection; this in turn reduces the payment risk associated with serving the directly connected poor households with irregular incomes. In bulk schemes this is achieved through the provision of informal credit by informal community leaders. These community leaders who organized the bulk system also treat the mini-distribution system as an entrepreneurial venture. Their business interest serves as a powerful motivation for ensuring that defaults are kept at manageable levels. Payment delinquencies in poor communities in the East Zone are said to be much lower than those found in middle class residential communities.
- Avoiding prolonged legal and other transactions costs through the following: assigning the procurement of a digging permit for the service lines to the leaders of beneficiary organization, bringing the company's own pipes and meters only up to the boundary of an illegal settlement and o further, requiring the beneficiaries that are not yet in the process of acquiring titles to their lands to secure legal waivers. The waiver stands for an arrangement between the local government and the community stating that they are willing to relinquish the area once the rightful owner decides to make use of the property (Villamor, 2003).

Generally there is an increasing investment by communities and by their politicians in secondary and tertiary pipes (especially in instances where the customers are more than 25 meters from existing water mains) as well as in terms of the after-meter CAPEX, OPEX, NRW mitigation costs, payment risks and tariff collection responsibilities.

Community Organizers: Making Water and Profits Flow in Poor Areas

The East Zone's program for the poor is called Tubig Para sa Barangay (TPSB). By 2002 its beneficiaries amounted to 40% of all people that received new connection in the East Zone since 1997 (see Annex A).

The program enables organized poor communities to obtain water connections. The East Zone Concessionaire either i) lets several households that would not be able to individually afford the connection fee to share one connection and thus split its cost among them or ii) may also provide one bulk connection to the whole community (up to 100 households or more), cost of both types of connections are shared again by the whole community.

MWCI claims that it has invested more of its own resources for its own community organizers than for engineers. But according to Matous and "Territory Business Managers can apply the program only in organized communities. In Philippines, these are NGOs and peoples' organizations. Community Organizers help to create and register POs. The poor are motivated to form organizations mainly to coordinate and negotiate with each other for the acquisition of titles to the private properties on which they are informally settled. In newly settled areas few such organizations exist. The semblance of organization that is found in such areas is informal brigades with informal ties to providers of protection at city hall for the defense of the newly occupied area. Conflict between these informal leaders is usually reported and it is known to lead intermittently to violence. Essential services such as water and access roads, however, are part of the core agenda of these informal leadership structures. NGOs and formal and informal community organizers therefore do this work or organizing collective action independently of the concessionaire.

Community organizations can gather the necessary documents for the whole community – including waivers that prevent the improved access to a service from crystallizing into a stronger claim on the property by illegal settlers. In bulk water supply schemes where only one meter is installed for up to a hundred households, POs install internal distribution networks and take care of operation maintenance and billing within the community. Where TPSB would require expansion of the main distribution network, which MWCI might be reluctant to finance entirely, POs can push on their Local Governmental Units to its cost with MWCI.

Connection costs are completely paid for by the beneficiaries of the service. Although the Concession Agreement instructs the companies to provide a five-year credit facility they in fact provide only a few months credit for this³⁹. Where Capital Expenditures are necessary, the company may ask LGUs for support. The consumers pay for the construction operation and maintenance inside their communities. Where connection is shared, the company can deal only with one connection owner (or a PO representative) and thus save personnel expenses. Billing inside a community too is carried out by the PO or the group of households' leader who then pays the required total amount to the company.

Where the concessionaires bring connections to informal settlements they impose a zero NRW rule on their area managers who, in turn, implement service connection modes that require households to pay for leaks and water stolen in between the water meters and their households. This is one of the engineering innovations used in the East Concession that make serving the poor compatible with addressing the core efficiency issue of commercial losses at least cost for the water company. It is an approach that creates a lot of returns where there are known high levels of commercial losses. More than one third of East Zone's TPSB programs are located in Balara Business District, and it is perhaps

³⁹ Virgilio Rivera, East Zone Manager for Regulatory Affairs

no accident that the Balara Business district headed by its manager Jun Dizon has the lowest NRW in the East concession at 36 percent⁴⁰.

West Zone NRW Reduction Strengthens the Compatibility Between Bringing Water to the Poor and Company Profitability

The scheme used in F. Carlos involved the installation of a secondary underground water pipe measuring 150 mm and connecting it to an existing main pipe. This underground pipe measured a total of 421 meters in length. From the underground secondary pipe, galvanized pipes (50 mm) were installed aboveground leading to a battery of water meters. Aboveground pipes made repairs easier and also discouraged illegal tapping. After the meters, plastic pipes were installed leading to the individual households. The galvanized and plastic pipes totaled 2,508 meters in length. The project was started in September 16, 1999 and was completed on October 13, 1999. Out of the 1,200 resident households, 908 applied for house service connections. The connection fee charged was P2,400.⁴¹ A down payment of P200 was required and the balance was payable in 10 months.

Per the cost benefit analysis done by Maynilad (West Zone Concession, full recovery of the cost of installing the connections was attainable within ten months. But if the expected reduction in the losses incurred from non-revenue water (60%) was factored into the computations, Maynilad stood to recover the cost of the connections within 6 months.⁴² As expected, overall water consumption and collection increased dramatically after the installation of individual meters. Average household consumption also noticeably increased by around three times..

Case of F. Carlos Community described in Karaos 2001

The West Zone concessionaire also recognized the compatibility between bringing connections to poor communities and addressing NRW in the vicinity. Both concessionaires also recognized the importance of facilitating access to the service in a manner that a public bureaucracy might not have. If it is difficult for people to get a proper connection because of many eligibility requirements, there will be an increased resort to illegal connections. However, the West Zone did not make use of the simple expedient of locating the battery of water meters together in a spot outside of the settlement itself. Water theft may still occur inside the settlement but the financial loss is charged to a neighbor who owns the meter upstream outside of the settlement. The West Zone concession was also not attentive to the potential savings in operational costs of letting organized communities run mini distribution systems, which is an approach not explicitly prohibited in the contract. One can predict that the West Zone concessionaire will also increasingly adopt the approaches in the East Zone.

Evolution of the East Zone Model

⁴⁰ Interview with Virgilio Rivera

⁴¹ This amount is equivalent to approximately \$60 at the exchange rate prevailing at the time.

⁴² According to the computations made by Maynilad, it was losing 60% of the water (non-revenue water) in that area. At 30 cu. m. average monthly consumption per household and P5.98 cost of water per cubic meter, the water company would be reducing its losses by as much as P97,737 per month (908 households x 30 cu.m. x 60% x P5.98/cu.m.)

There is widespread speculation that private concessionaires have an incentive to keep the number of directly connected households limited. At present, there is a ratio of 15 people per connection (similar to Jakarta) among households in Metro Manila who derive their water from the supplies of the concessionaires (McIntosh 2003). The incentive inheres in the fact that small water vendors, if they pay for their water, will get the supplies from the private concessionaires at the more expensive end of the increasing bloc tariff schedule. Even if the tariffs for the bulk sales to mini distribution systems are adjusted downwards, the tariff charged by peddlers and truckers will remain unregulated and will in effect continue to be a channel through which the concessionaires will be able to tap the high willingness to pay among customers who remain unconnected.

One will not be surprised if a financially-distressed company like the West Concession in Manila might prefer this “mediated” mode of delivering water. It is a means for maintaining revenues even while postponing capital expenditures. Revenues will of course rise with the ability of the concessionaire to detect commercial losses due to the operation of peddlers and truckers.

But what about the East Concession company? The East Zone Concessionaire has better access to capital markets. What will push the East Concession in the direction of give up the opportunity to earn from commercial bulk sales via peddlers or bulk connections, especially in the next few years when it is on a better technical footing to detect probable water theft by these water vendors and levy business rates on their supplies?

While the East Zone approach appears to be working at the moment there are a number of factors that may lead to important modifications in the future:

Regulatory Pressure to Modify Pricing in Grouped and Bulk Connections – group and bulk connections charge households at least twice or three times the price of an individual connection. This is because the total consumption registered in the shared meters is high and corresponds to the upper ranges of the increasing bloc tariffs schedule. Thus, even if the cost of water from these connections is only a fraction of what people would pay to itinerant water vendors, this service may be seen as being highly inequitable and still regressive as the poor pay significantly more for the same amount of water consumed relative to the middle and upper income households who have individual connections. From another perspective, one might say that grouped and bulk schemes are the concessionaire’s way of tapping the poor’s high willingness-to-pay for water under a regulated regime.

The Regulator for Customer Service is in the process of producing official documentation about tariff arrangements in grouped and bulk meters schemes. These have also been documented through case studies by Inocencio and David (2001), Inocencio (2003), Villaluna (2003), Matous (2004). As early as 2002 Congressional hearings have already touched on this contentious practice of charging high water tariffs through bulk and grouped connections. Shortly after those hearings and on the prodding of then MWSS Board chairman Bayani Fernando the Regulatory Office has drafted proposals for more equitable pricing in these schemes. One such proposal involves dividing the total consumption by the number of households to get the mean consumption per household.

This mean consumption will then be the basis for assigning an overall rate per cubic meter, based on the increasing bloc tariff scheme.

High Tariffs “Para sa Barangay”

Forty percent of the new connections of Manila Water (East Concessionaire) for the years 1998 to 2002 are accounted for by the Tubig Para sa Barangay Program.

United Utilities reports that the Tubig Para sa Barangay Program in East Manila was benefiting 383,000 people or 50,000 families through 19,000 connections in 2002 (United Utilities, p. 45). This means that at least four families or an average of 20 individuals get their supply from one Tubig Para sa Barangay connection. Using the reported 17 cubic meter mean consumption of poor households in the case of piped water supplies, this means that poor households on average pay tariffs that are in the 5th or 6th bloc of the rising bloc tariff structure.

Households consuming an average of 15 cubic meters per month will pay P54 if they had an individual connection, they would pay P94 if three of them share a connection, they would pay P123 if they were in a group of five households sharing a single connection. Assuming no surcharges levied by the operator of the mini-distribution system inside a settlement, 15 cubic meters of consumption by household connected to a bulk connection would have cost P205 before, it is now P91 after the utility re-classified bulk connections as semi-business operations instead of very large households.

The effect that such proposals will have on the investment behavior of business district managers cannot be predicted easily. According to East Zone managers, new bulk meter schemes are now being charged semi-business rates, producing a tariff level that turns out to be generally less onerous, but still significantly higher than for those customers with direct connections. It would not be surprising if the company would want to charge higher than normal rates in informal settlements. This can be justified by the plethora of risk and high social preparation costs that need to be incurred especially in areas where internal community organizations are weak.

On the other hand, while the rates for the first consumption bloc may not cover operating costs of the company, poor households with direct connections have a mean consumption of 17 cubic meters per month, which is not the lowest bloc rate. In other words, especially after the adjustment of rates during the 2002 rate re-basing exercise revenues even from consumption levels of poor households may remain attractive even as effective tariffs are brought nearer to rates enjoyed by households with individual connections. Tariff increases for the first bloc of the IBT arising from the 2002 rate re-basing also now hew much closer today to actual maintenance and operations costs.

Company incentives for working with or competing with water vendors, which do not operate mini-distribution but distribute water by going house to house systems, are complex. "Vended water is sold through a well-organized, informal, and relatively open

system of illegally distributing MWSS water (WPEP, 2003)." It is not straightforward to claim that the two concessionaires also profit from the operations of water vendors. In the first place, water vending is a highly competitive business, entry into the "industry" is easy because of the low level of irreversible investments required. Prices are high because there are no economies of scale comparable to what the utilities possess. Because of the low margins and the still limited capacity of concessionaires to detect commercial losses in their networks, it is quite likely that the water is in many instances derived from free, non-legal sources. The view that it is in the commercial interest of private concessionaires to sustain the business of water peddling will at the very least have to be tempered by the knowledge that the high cost of peddled water limits poor households to only 15 liters per capita per day (WB 2001). On the other hand the consumption of the same poor households will rise to an average of 94 liters per capita per day when they have access to piped water.

Water Consumption of the Poor in Metro Manila

There is also information (World Bank 2001) that shows that the average consumption of households connected to the MWSS pipes is 27 cubic meters per month with a median consumption of 18 cubic meters per month per household. Among poor households with direct connections to MWSS the mean consumption is 17 and the median consumption is 13 cubic meters per household. This latter profile is a figure that is quite close to the mean and median consumption of all households with individual connections to water district systems outside of Metro Manila. Assuming household sizes of six people, this would mean that the mean per capita consumption for poor households with direct MWSS connections is 94 liters per day while the median consumption is 72 liters per person per day. This is many times the per capita consumption of poor households that rely on vended water (15 liters per person per day).

On average, poor households spend an equal or higher percentage of their total household expenditure on water compared to wealthy and middle-income households. Poor households relying on vended water as their main source spend as much as 9% of their household expenditure on buying water.

The commercial implications of this potentially higher level of consumption among the poor when they have piped connections may be no less attractive compared company's supposed capacity to partake of the unregulated profit of water these vendors. "If consumption levels are used as a proxy for service quality, level III (piped water) systems are the preferred choice of the clients. The evidence indicates that most of the poor, if given the choice, would access level III service, and consume water to the point that they could afford" (World Bank 2001). This simply means the same community will consume significantly more water if water goes through the pipe instead of being sold through peddler intermediaries.

Because the variable cost of selling an additional unit of water is quite low (25 % of OPEX per cubic meter as determined at the 2002 rate re-basing exercise) it can turn out that selling more water through pipes can be as profitable as selling a little water at high prices.

“Limited Supply” of Organized Communities -- Sustainability of the East Zone business model depends on the presence of reliable leaders who can be trusted with water payments of households and who will be able to operate a mini-distribution system efficiently (Innocencio and David, 2001). Tighter regulation of rates may also have the unintended effect of reducing entrepreneurial interest in the operation of mini-distribution systems in bulk schemes.

This may mean that the start-up costs for social preparation and maintenance costs that must partly be incurred by the company could increase, since the company may have to invest more deliberately in community organizing work. An inventory of the transactions that are facilitated by pre-existing organization in communities include the following: i) processing of various permits and waivers, ii) lobbying for the municipal counterpart, iii) getting community commitment to finance service line extensions from the mains and not just individual connections, iv) getting community agreement for the financing of the bill collector whose job is also that of reading sub-meters, detecting theft especially among non-joiners, applying pressure on delayed payers who whittle down the community reserve fund, iv) orienting new joiners as to the rules and perhaps extracting from them a portion of the collective community contribution that they may have avoided for being late joiners, training second line community leaders. The presumption has to be that even if collective action will provide a benefit to everyone, there is nothing inevitable in its occurrence. There can also be no presumption that once a system has been shown to work, that it will be a self-reinforcing arrangement.

Increased Willingness of the Company to make capital investments –the East Concessionaire seems prepared to increase its investment exposure for infrastructure services for its poor consumers. In the past both the East and West concession companies have maintained they have complied with the obligations of Clause 5.1.3 of the Concession Agreement, which instructs them to provide a five-year financing scheme for service line extensions and other connection fees. In fact the financing schemes offered in the past by the companies for connection costs are for loans that have to be repaid in a few months. There are no consolidated records of requests for new connection from households whose distance in excess of 25 meters from water mains, it is therefore difficult to assess the number of customers who could have been given a connection if better financing schemes for connections and associated costs were made available.

This failure to implement the concession agreement’s intent of lowering the hurdle imposed by upfront expenses for securing connections is of a piece with the two companies’ need to postpone investments until they have been “made whole” by tariff adjustments and the re-setting of service targets. Having secured these at the first rate re-basing, the East Zone concession is prepared to shift strategies in line with the easier

availability of finance from its creditors. While the West Zone is still indefinitely caught in a state of unbankability, the East Zone concessionaire due to the tariff levels that it has been granted and the efficiencies that it is confident of attaining from 2003 onwards now has easy access to bank finance. The International Finance Corporation has recently become a shareholder as well as being a major creditor. The company also intends to raise more capital in 2005 via an Initial Public Offering.

This may yet result into a policy that is the diametric opposite of the present localized and short-term recovery of connection costs. Virgilio Rivera of the East Zones Office for Regulatory Affairs claims that the company is contemplating, not just the implementation of better financial schemes for water connections, but bundling more aspects of the connection costs into the CAPEX program for 2007 and onwards. This means that instead of collecting infrastructure fees from direct beneficiaries over a few months, more of the connection costs will be collected over the life of the concession. These costs will also be collected from the entire customer base instead of being levied exclusively on the direct beneficiaries of the infrastructure. In effect, the easing of the East Concessionaire's access to capital markets opens up the possibility of creating a cross subsidies for connection costs.

There may therefore emerge a greater tendency for the emergence of individual connections as the mode for delivering water in urban poor areas. If the revenue earning advantage for the company of multiple household connections is reduced by regulation that brings down the relevant tariffs for such connections then the concessionaire may start to consider the virtues of having individual connections more highly. First, with individual connections there is no added community work for forming groups and identifying a leader to be responsible for the shared connection nor will there be a need to form and empower water associations to run an efficient and sustainable mini distribution nets (David and Innocencio 2001).

This, however, may not necessarily mean that the East Concessionaire is about to give up all the benefits of the successful business model built on OPEX cost avoidance and risk mitigation properties of bulk connections and meters located far upstream and off-the NRW prone settlement. To review, among the weaknesses of individual service connections are that : the community as a whole may not have as much incentive to report leaks and illegal tapplings as in the other types where the financial burden resulting from leaks and theft is collective, rather than individual; also in big squatters areas billing and tariff collection has been known to be difficult and risky for company staff.

Subdued Profit Motive and the Incentive to Invest in Poor Areas

It is easy to construe the Concessionaires' early "stinginess" with respect to financing schemes for water connections for the poor as an invariant, perhaps inescapable, behavior of private water companies. It would not be unusual to come across assertions that financing schemes for the poor were not developed as far as the concession agreement intended "because the poor have low consumption levels, have a tendency to delinquency in payments and are often physically transient in their settlements" -- customer characteristics that would lead private companies to shy away from the. The conclusion that commonly follows from these correct observations is usually a recommendation

fundamentally critical of approaches that try to harness the profit motive in programs to provide services for the poor.

The response that became possible in the case of the Manila concessions and the business model that emerged from it however had two crucial ingredients that that may dispel the worst anticipations about profit motivated water service delivery:

First, because the contract assures the concessionaire of an ADR return for its capital expenditures it does not extremely matter whether the investments are in poor areas or in rich areas, even if there is a significant difference in operational revenues; as long as the performance targets are achieved especially with respect to the population covered the company will be entitled to average returns in the industry. The negative effect of concentrating in poor areas, if there will be any, will be on the short-term cash flow rather than on the net present value of total revenues during the contract's life. Therefore, *a company that intends and expects to operate its concession over the long haul and is not experiencing cash flow difficulties due to problems with its creditors can be indifferent as to the location of its investments.* Adjustments to overall tariffs during the periodic rate re-basing exercises implements this long-term re-balancing of rates to achieve the guaranteed ADR returns⁴³. While there is a provisions in the contract⁴⁴ allowing the concessionaire to retain operational revenues in excess of business plan operational revenues, these excess revenues must, after a time, be converted into lower tariffs for consumers. So there are specified limits to the extent that a company can enjoy the fruits of commercial success.

Second, as we have seen above the business model did not turn out to be based purely on a strategy of risk avoidance via the avoidance of poor customers and informal settlements. As detailed above, the service delivery modes also featured social and technical methodologies that had the effect of mitigating or insuring against the various risks of water service delivery to the urban poor.

The conclusion here is that there appears to be scope for the private implementation of public service mandates to extend service coverage, without fundamentally jeopardizing the privatized institutional arrangements.

In the future other instruments may emerge. For instance rising bloc tariffs have been retained in the concession agreement and there is a yet undetermined extent to which the Regulator can differentiate rates between consumer types i.e., the extent to which the Regulator can raise rates from some consumer types in order to accelerate coverage for others. The costs of bringing the supply to relatively affluent uphill Zones (pumping) such as in Antipolo City are not yet being passed on to the particular sub-set of consumers in that city that benefiting from the service. There is also no differentiation thus far between the rates imposed on consumers who receive high quality service (e.g., 24 hours at 16 psi) and those consumers at the extremities of regular service who must put up with intermittent supply and low pressure.

⁴³ It is an empirical question whether rising rates, due for instance to the high capital requirements of reaching poor settlements, might result in significant reduction in consumption and sales.

⁴⁴ In the sections on rate re-basing.

One important limit to achieving public mandates over and above contract commitments is the unwillingness of national politicians to impose higher tariff rates to on consumers for the purpose of financing operating costs and business risks of serving areas that may not be commercially viable.

The development of such instruments might prove critical in the West Zone, where the bankability problem will continue to constrain expansion of services to poor areas.

Constraints to the Acceleration of Universal Service Coverage

The remaining constraints, that perhaps even public companies operating in Manila has to face, pertain to the following:

Financing of service line extensions towards isolated communities – Even Manila Water's contemplated bundling of connection fees into its CAPEX program may not sufficiently lighten the burden of upfront costs for communities that want to get have their own water lines. Aside from connection fees there are at least two other costs that need to be financed – after meter expenses and costs attendant to extension of a service line from a distant water main.

After-meter pipes for distribution systems inside informal settlements are never paid for by the East Concessionaire under its existing business model. This is the approach taken by the company in part because owners of properties (even government agencies) that have been taken over by settlers usually do not grant permission for the development of the property as this increases the value to the settlers of permanently staying permanently. A second important reason for this approach is that where resettlement is a possibility the company would not want to reduce the risk of being saddled with assets that would suddenly have no more revenue stream⁴⁵.

Strictly speaking East Zone concessionaire Manila Water is obliged to connect only those households that are within 25 meters of the network of water mains that are contemplated in the current business plan. Even when if the company subsequently decides to bundle connection costs into the CAPEX program these will finance mainly the water meter fixtures and the pipes leading from the water main. Likewise, the five-year financing scheme specified in the concession agreement would have finance only these limited connection costs. Settlements that are far from these water mains may be connected in the following years as the network of water mains gradually expands. If they want connections, communities beyond 25 meters of these mains will have to generate the part of the funds needed for establishing service lines. The company will usually contribute some amount, based on some rule of thumb on the annual revenue stream that each peso of investment in service line extensions should be able to generate from the settlement to be connected. There are instances when local politicians contribute the rest of the resource that the community cannot afford. But the formality of these co-financing arrangements between the private concessionaire, the community and local governments

⁴⁵ The other part of the explanation must surely be that the concessionaire had money for only a little over half of its intended capital expenditures during the first five years of operations and may not have wanted to avoid costs.

varies. There is no instance yet wherein the level of coordination and planning has reached a point whereby the local government is able to include service line extension investments into its own annual investment plan. Local government units have no legal personality in the concession agreements, a representative of the Metro Manila Development Authority⁴⁶ (MMDA) sits in the Board of the MWSS but there are no terms of reference that connect mayors and the representative of the MMDA at the Board of the MWSS. Maite Defensor, a Congressional Representative to the Lower House repeatedly inquired why the East Concessionaire needed to solicit funds from her office for service line extensions – “Don’t they get a return for investing in these communities, based on their contract? Why should my office have to shoulder the investment?” Because of the absence of formal coordination with local government units these are also questions that mayors ask. The Concessionaire of course claims that they don’t get an ADR return for investments that they did not make. The asset becomes the asset of the MWSS when the concessionaire endorses back the assets it uses when the 25-year concession ends. There is plenty of room for improving on the capital investment programming for service extension programs beyond the current concessionaire business plans.

Micro-finance programs within communities can also be used for increasing the capacity of communities to contribute for service line extensions. The Genesis program in Guatemala that finances rural electricity as well as peri-urban water infrastructure is a model that can be replicated in the Philippines. The Development Bank of the Philippines and a big micro-finance wholesaler CARD, is moving towards implementing micro-finance schemes for financing rural electricity systems. This may mean that the institutional capacity for expanding community contributions for financing service line extensions as well as mini-distribution systems in the water sector may be just about ready too. Needless to say, there will always be instances where a community is too poor or its population density is too low to expect the community to be able to fully finance their end of the pipe. Local government contributions will be needed. The opportunity cost of local government funds and the return on other important local public investments will then define the limits of this Community-Local Government co-financing of accelerated service coverage.

The other, simpler, approach (which will work where the concessionaire faces no bankability problems) would be to authorize or require the concessionaires to bundle service line extension to, say 100 meters and below, into the CAPEX. The only problem then would be perceived the over all affordability of the tariffs. We say “perceived” because the re-elected president has had a bias against raising tariffs even if the consequence has been to delay service coverage. So even if people are willing-to-pay, the politician might not be willing to levy⁴⁷.

⁴⁶ The Metro Manila Development Authority is an administrative body under the Office of the President that coordinates inter-city public goods such as traffic, flood control and solid waste disposal.

⁴⁷ This is a problem that may have its roots in the structure of the tariff approving body – the MWSS board. The MWSS board is made up of ex-officio members from different line agencies of government. There are also individuals. All of these members, however, are appointees of the president, they “serve at her pleasure.”

A mode of financing service pipe extensions that are not in the business plan of the East Zone concessionaire are investments made by private entrepreneurs who then charge households downstream for this investment. Ernhard Berner () warns, however, that “there are people who make a living out of squatting. New squatter areas are regularly developed by syndicates that bribe officials, develop infrastructure (most importantly, a source of water) and eventually organize an invasion and coordinate the defense of the new settlement in the first critical months.” This shows that part of the innovativeness of the East Zone private concessionaire lies in its ability to design modes of service provision that are compatible even with informal power structures in informal settlements.

Supportive Legal Framework for Pioneers in Hard-to-Reach Areas -- The promotion of a legal framework for common minimum standards and orderly reticulation and turn-over of assets of pioneer providers in hard-to-reach areas is needed. Where the pioneer provider⁴⁸ will not be required by the Concessionaire to turn-over its assets but will instead purchase treated water in bulk from the Concessionaire, it is important to regulate the bulk tariffs so that the end consumers within these self-financed distribution systems need not pay tariffs that are substantially higher than customers with direct connections have to pay.

This should be seen as necessary refinements to the non-exclusivity provisions of the contract. The two concession contracts in Manila allow for third party provision, and effectively encourage it in certain cases. In the section that deals with exclusivity, the contracts state that a concessionaire may consent to the granting of a license to a third party to operate in its service area.

Metro Manila concession contracts as explained in a previous section do not impose a strict exclusivity regime within the franchises. Pre-existing third-party operators are allowed to operate. New third-party operators are permitted to operate if the concessionaire in an area judges that it would not yet be viable to extend services to these areas at the prevailing authorized tariffs. The third party operators are able to tap the willingness of the communities to pay higher than prevailing tariffs, since most of them are self-regulating even though the National Water Resources Board is supposed to be regulating their tariffs.

The concessionaire is also allowed to account for these areas covered by third-party providers in its own report by removing the population they serve from the total population that the main concession is supposed to serve. This will make the achievement of percentage coverage targets easier.

Rosenthal (2002) highlights this unique feature of the Manila concession contracts, the paper fails to point out, however, that third-party operators established after 1997 are allowed only sixty days within which to close down their business if the concessionaire decides that it is ready to commence operations in an area after say ten years of neglect.

⁴⁸ Pioneer provider sets up level II or level III piped water systems.

The contract provides no compensation for the third-party operators. What is overlooked by Rosenthal is the likely possibility that this would discourage long-lived investments for high quality services in peripheral areas. Third-party operators and their creditors will hesitate to invest in infrastructure that will deliver reliable and high quality service because there is that significant risk that the main concessionaire will decide to take-over the area well before investments get their return.

"Non-Exclusivity Provision in Metro Manila Water Concession Contracts"

Subject to (i) and (ii) below, the Concessionaire shall have the exclusive right to provide water and sewerage services in the Service Area: (i) Any license granted by the NWRB with the consent of MWSS to a third party provider of water and sewerage services in effect on the Commencement Date shall remain in effect in accordance with its terms. (ii) In the event of any application to the NWRB for which MWSS consent is sought by a third party for a license to provide water and sewerage services to a new development after the Commencement Date (a "New Third Party License"), MWSS shall consent to the grant by the NWRB to the Concessionaire of the right to provide such services to such new development if the Concessionaire agrees to provide such services on (a) substantially similar terms as set forth in the proposed New Third Party License and (b) at the Standard Rates then in effect for such services. If the conditions set out in the previous sentence are not met, or if the Concessionaire voluntarily declines to provide the services to such new development, MWSS may consent to the grant of a license to the third party service provider for a term not longer than 10 years, subject to revocation upon not less than 60 days' notice to such third party provider in the Concessionaire notifies MWSS and the NWRB in writing that the Concessionaire is in a position to provide such services in accordance with the conditions of this clause (ii). *[Section 5.3: Exclusivity]*

In the waterless towns of Rizal province⁴⁹, East of Metro Manila, 34 barangays want to replicate the success of the water cooperative in barangay Darangan, which provides piped water for approximately six thousand people. While the Darangan Water Cooperative, because it was set up way before the appearance of the Metro Manila concession contracts, enjoys some degree of tenure in its area of operation the 34 other potential emulators that already have a limited level II and III infrastructure will probably not invest in more deep well pumps, storage facilities and in a network of distributions pipes, such as what the Darangan Cooperative has set up. This is because of the sixty-day provision that allows the private concessionaire (the East Concessionaire) to come in and take their revenues base.

The water Cooperatives of Binangonan Rizal are having to serve an increasing customer base. Physical resources of the water cooperative are stretched and water pressure is already low and water service is in most cases available only for a maximum of four hours a day, as the water has to be rationed to all customers. If this investment uncertainty is not cured, one can expect that peddlers and truckers will fill up the gap between supply and demand. The water will be expensive and probably untreated.

⁴⁹ The towns of Rizal province including Angono, Binangonan and parts of Taytay are not expected to receive full water service from the East Zone Concessionaire until the water from Laiban Dam is fitted with a large aqueduct to bring water to these per-urban high-elevation towns in 2012.

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Annex A

WATER SERVICE PERFORMANCE MANILA WATER COMPANY, INC. & MAYNILAD WATER SERVICES, INC.

Service Indicator	Prior to Privatization	MWCI (East)			MWSI (West)			Combined	Gains
		Target 2001	Actual 2001	Actual 2002	Target 2001	Actual 2001	Actual 2002		
Population Served Based on Official Number of Water Service Connections (millions)	7.3M	4.26M	3.2M	3.4M	6.7M	5.3M	5.3M	8.7M	18% Increase
Official Number of Water Service Connections	779,380	378,670	352,982	369,699	574,590	577,637	573,197 ^a	942,893	21% increase
Water Production (mld) Annual Average	2,800	1,234	1,724	1,658	2,257	2,417	2,363	4,021	44% Increase
Water Coverage (Based on Official Number of Connections) ^b	67%	77.1%	76%	82%	87.4%	79%	78% ^a	79%	18% Increase
Sewer Coverage ^c	7%	3%	3%	3%	16%	11%	10% ^d	7%	-
Number of Septic Tanks Desludged		38%	1,367	5,724	43%	6,452	9,843	15,567	-
Water Availability	17	24	21	21	24	21	21	21	24% increase
No. of Staff	7,638	1,386	1,530	1,516	-	2,594	2,366	3,882	49% Increase
Staff/1,000 Connections	9.8	3.7	4.3	4.1	-	4.5	4.1	4.1	58% Increase
Reported No. Of Leaks	27,053	-	40,454	38,225	-	41,242	98,611	136,836	
No. of Leaks Repaired	20,585	-	39,688	37,461	-	38,508	92,189	129,650	
Non-Revenue Water	61%	16%	48.29%	52.66%	31%	66.25%	68.88%	62%	-
No. of Fire Hydrants	-	-	1,794	1,115	-	2,073	3,867	4,982	-
Services Extended to the Poor (Water service connections)	Water Improvement for Depressed Areas	-	*14,504	**22,160	-	61,370	63,730	85,890	-

Sources:

Primary Source of pre-privatization data is the “**MWSS Operational Strengthening Study**” (MOSS) in 1996 and 1997 data from MWSS Corporate Planning Office.

Primary source of post-privatization data are the **Service Performance Information (SPI) Reports of the Concessionaires 1997-2002**

*with equivalent: **50,549** household connections

with equivalent **63,910 household connections

Annex C

MWCI - Revised Water Supply Targets - Population Affected

Area	Actual % Coverage Dec. 2001	C.A. Obligation 2006	Def. Year	Total Domestic Population Dec. 2001	Population Domestic Covered Dec. 2001	Population Domestic Covered Dec. 2006 No Deferment	Pop. Affected by Deferment of 2006 Obligations *	% Population Affected
NCR								
Manila	100%	100%	-	163,023	163,023	163,023	-	-
Quezon City	98%	100%	2011	737,439	722,691	737,439	7,374	1%
Mandaluyong	100%	100%	-	275,772	275,772	275,772	-	-
Makati	100%	100%	-	252,549	252,549	252,549	-	-
Marikina	96%	100%	2011	341,224	327,575	341,224	6,824	2%
Pasig	95%	100%	2011	462,156	439,048	462,156	11,554	3%
Pateros	100%	100%	-	56,351	56,351	56,351	-	-
San Juan	100%	100%	-	111,814	111,814	111,814	-	-
Taguig	20%	100%	2016	503,638	100,728	503,638	134,303	27%
RIZAL								
Rod./Montalban	34%	95%	2011	75,828	25,782	72,037	23,128	32%
Cainta	64%	80%	2021	243,723	155,983	194,978	9,749	5%
Taytay	35%	100%	2021	138,431	48,451	138,431	22,495	16%
Antipolo	33%	95%	2021	434,205	143,288	412,495	67,302	16%
San Mateo	32%	100%	2016	84,658	27,091	84,658	19,189	23%
Rizal Water Districts' Association (RIZWADA)								
Angono	0%	96%	2021	52,630	-	50,525	12,631	25%
Binangonan	0%	81%	2021		-	-	-	-
Cardona	0%	51%	2021		-	-	-	-
Municipal Run Water System								
Baras	0%	51%	2021		-	-	-	-
Jala-Jala	0%	51%	2021		-	-	-	-
Morong	0%	51%	2021		-	-	-	-
Piliia	0%	51%	2021		-	-	-	-
Tanay	0%	75%	2021		-	-	-	-
Teresa	0%	60%	2021		-	-	-	-
				3,933,442	2,850,144	3,857,090	314,550	8%

* Assumed straight line increase between 2001 and deferment year.

Annex B

MWSI - Revised Water Supply Targets - Population Affected

Area	Actual % Coverage Dec. 2001	C.A. Obligation 2006	Def. Year	Total Domestic Population Dec. 2001	Population Domestic Covered Dec. 2001	Population Domestic Covered Dec. 2006 No Deferment	Pop. Affected by Deferment of 2006 Obligations *	% Population Affected
NCR	90%							
<i>Kalookan</i>	88%	100%	2008	955,082	840,472	955,082	81,864	9%
<i>Las Piñas</i>	34%	91%	2009	320,187	108,864	291,370	114,067	39%
<i>Makati * (13%)</i>	100%	100%	2006	56,792	56,792	56,792	-	0%
<i>Malabon</i>	100%	100%	2008	337,025	337,025	337,025	-	0%
<i>Manila * (89%)</i>	100%	100%	2006	1,392,166	1,392,166	1,392,166	-	0%
<i>Muntinlupa</i>	29%	86%	2009	265,548	77,009	228,371	94,601	41%
<i>Navotas</i>	83%	100%	2008	230,346	191,187	230,346	27,971	12%
<i>Parañaque</i>	100%	100%	2006	267,361	267,361	267,361	-	0%
<i>Pasay</i>	100%	100%	2006	343,638	343,638	343,638	-	0%
<i>Quezon City * (58%)</i>	100%	100%	2006	1,170,131	1,170,131	1,170,131	-	0%
<i>Valenzuela</i>	85%	100%	2008	480,615	408,523	480,615	51,494	11%
CAVITE	40%							
<i>Bacoor</i>	30%	90%	2009	274,898	82,470	247,409	103,087	42%
<i>Cavite City</i>	100%	100%	2009	104,783	104,783	104,783	-	0%
<i>Imus</i>	10%	61%	2009	173,098	17,310	105,590	55,175	52%
<i>Kawit</i>	83%	100%	2009	66,171	54,922	66,171	7,031	11%
<i>Noveleta</i>	37%	100%	2009	33,473	12,385	33,473	13,180	39%
<i>Rosario</i>	30%	90%	2009	77,393	23,218	69,654	29,022	42%
				6,548,706	5,488,253	6,379,975	577,492	9%

* Assumed straight line increase between 2001 and deferment year.